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Rental housing markets:
Musical chairs, with fewer chairs

While the homeownership market struggles, the rental sector is finding its legs. That's good for rental property owners, and less good for renters

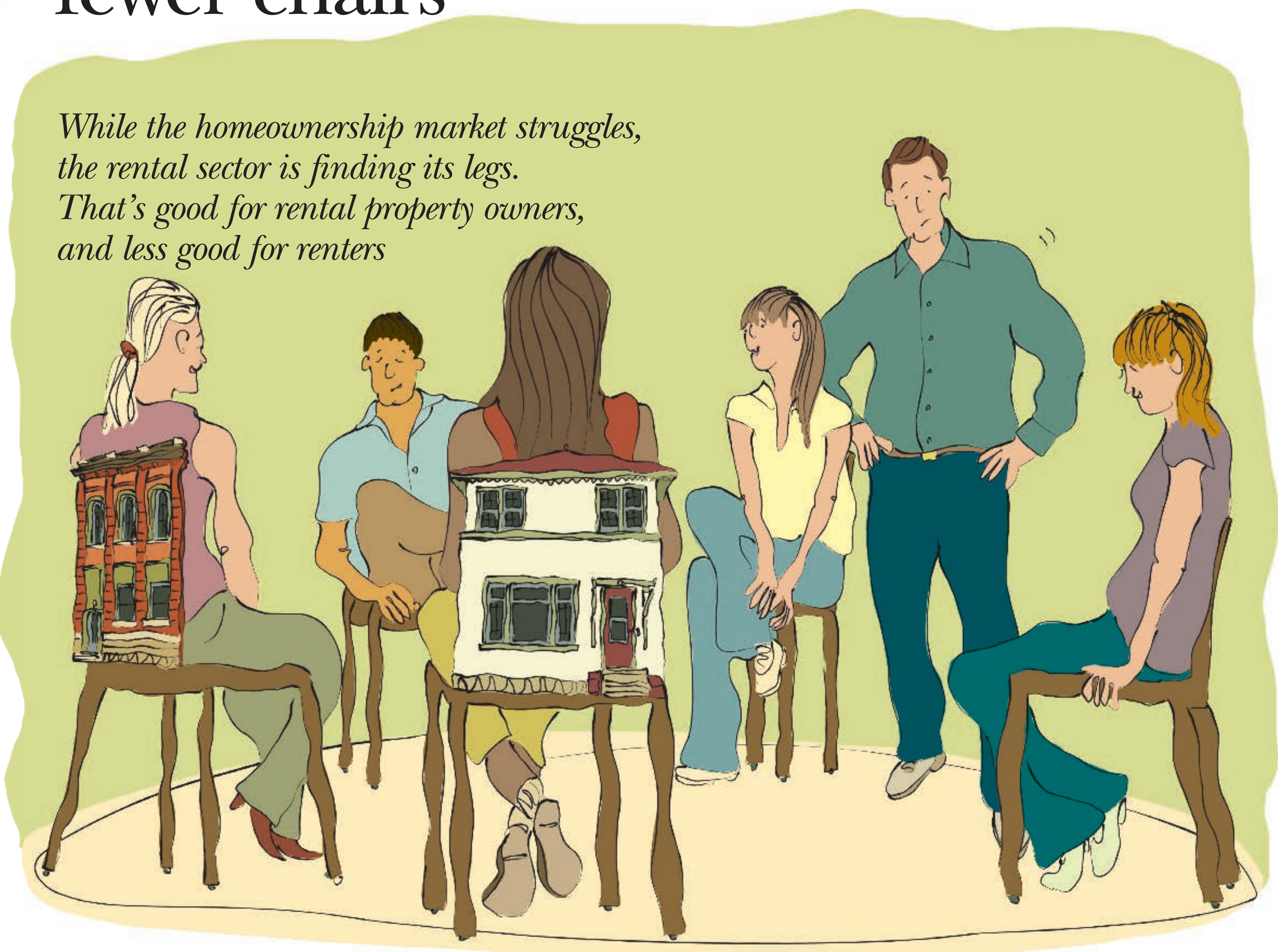

ILLUSTRATION BY WASCO

By RONALD A. WIRTZ
Editor

As the saying goes, the housing market has been down so long, people have forgotten what up looks like. Sure, there've been a few signs of life, but you've seen false starts before.

Make no mistake, however, it's there—the good news about housing—if you just look for it. By all accounts, this is the real thing. This market has strong prospects going forward, and it's the whole works—rising demand, swinging hammers, new units and rising prices.

But it's not where you think. It's past all the for-sale signs and behind all the foreclosures. What's that? You say the only thing going on in your neighborhood is new rental units and some rental conversions of single-family homes?

Welcome to the robust part of the housing market. While the single-family homeownership market continues to struggle—dominating attention along the way—rental housing markets appear poised to enjoy a few good years, owing to strong sector fundamentals.

But rental markets didn't get to this point in easy, stair-step fashion. Over the past decade, the industry has generally followed the volatile path of the broader economy, experiencing big swings in vacancy rates and building activity as a consequence of a housing boom sandwiched between two recessions, as well as a sluggish recovery to the later and more devastating recession. This volatility and a household preference for homeownership during most of this period gave landlords little traction to raise rents. As recently as 2010, vacancy rates were high across much of the nation and the Ninth District.

But there has been something of a rental renaissance in the past year or two thanks to pent-up demand and tight supply. Cities across the district are playing the vacancy version of the limbo, besting each other by going lower than others. In Fargo, N.D., vacancy rates are

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Rental housing from page 1

about 5.5 percent; in Duluth, 3.4 percent. The Twin Cities went below 3 percent, only to be done one better by Billings, Mont., at an estimated 2.4 percent. In oil-boom parts of western North Dakota, vacancy rates in Williston, Dickinson and Minot are reportedly below 1 percent.

The Quick Take

Over the past decade, residential rental markets have seen big swings in vacancy rates and building activity, coinciding with the housing boom, subsequent recession and sluggish recovery. As recently as 2010, vacancy rates were high across much of the nation and Ninth District. But the sector is now experiencing something of a rental renaissance, thanks to strong demand and a dearth of new units, the latter a result of a near shutdown in new construction since the recession.

These factors have pushed vacancy rates lower across the Ninth District, and the outlook for property owners is very positive. New construction in multifamily units is starting to swing upward, but not likely fast enough to overwhelm low vacancy rates. After years of mostly flat rents, prices have started to rise and are expected to continue. Renters, especially low-income households, face something of a scavenger hunt given low vacancy rates. How long these conditions last will depend on the market's response to tight conditions and on whether the growing share of renting households is temporary or a more permanent equilibrium stemming from the housing market collapse.

In Sioux Falls, S.D., rental vacancy rates fell from 11 percent in 2010 to 4.6 percent last year. Dan Siefken, executive director of the South Dakota Multi-Housing Association, said tenant turnover in apartments is similarly low because "if you're going to move, you have to have some place to go" that meets your household needs. "It's like a game of musical chairs, and all the chairs are taken."

Sources generally see green pastures for rental property owners. New construction in multifamily units is starting to swing upward, but not so fast as to overwhelm low vacancy rates, at least not immediately. Rents have started to rise, and that's expected to continue. Of course, that's not great news for renters; tighter vacancies and higher rents are particularly problematic for low-income renters.

How long these conditions might last is a matter of debate and will be affected by how aggressively the market responds to tight rental conditions, as well as the performance of the economy itself. It will also depend on the level of scarring inflicted by the housing market collapse on the American Dream of homeownership. Sources widely agreed that the recession and housing crash have changed people's view toward homeownership. But there is much less agreement on whether that is temporary, and where homeownership rates will ultimately settle.

No vacancy

Rental markets might feel like they are owed a few decent years after surviving the past decade. The 2001 recession pushed vacancy rates up in many markets (see Chart 1 for Twin Cities illustration). Afterward, construction of new rental units grew in many places, and vacancy rates declined during the housing boom—both good indicators of industry health—but landlords were competing with a household preference to own rather than rent, making it hard to raise rents. In fact, strong growth in new rental units forced many landlords to offer incentives—first month free, no security deposit—to attract and retain renters.

Then the Great Recession hit and rental vacancies spiked again, climbing over 7 percent in the Twin Cities (see Chart 1). "The recession hit [rental markets] on both ends," said Mary Rippe, president of the Minnesota Multi Housing Association (MMHA). Rampant job loss in 2008 and 2009, along with a soft market for college grads, forced many renters to consolidate in some fashion by moving to smaller apartments, doubling up with friends or moving back in with parents—or, for some older adults, taking a spare bedroom in their kids' homes.

The rental market was also the unfortunate victim of the federal government's first-time home-buyer program, which gave nonhomeowners an $8,000 incentive to buy in hopes of jump-starting the home-purchase market, pulling away more would-be renters. "So we were losing everyone on that end too, many of them long-time renters," said Rippe. "We lost market share across the board."

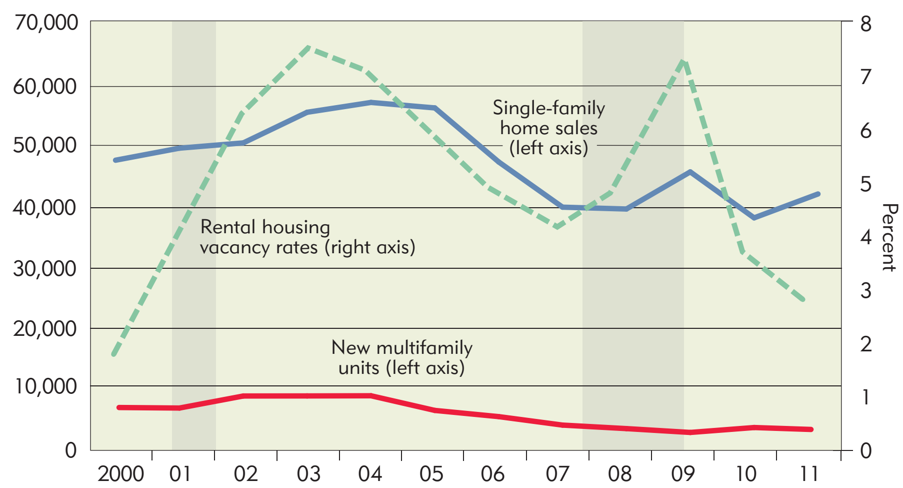
From this point, given the sluggish economic recovery and a moribund housing sector, a quick rebound in the rental market seemed like wishful thinking. But fast-forward two short years, and the Twin Cities overall vacancy rate (and 32 of 54 submarkets) had dipped below 3 percent last year, according to Marquette Advisors, a real estate services firm.

It's a similar-but-different story across the largest cities in the Ninth District examined by the *fedgazette* (see Chart 2). Getting a strong handle on individual rental markets can be challenging. There is little centralized data on many basic elements like rent levels and vacancy rates in most markets, especially outside the Twin Cities.

Available data and anecdotes suggest strong rental property markets across the district, even if vacancy rates are not identical. In the Chippewa Valley region of Wisconsin, home to Eau Claire, rental vacancies sat "around 5 percent" this spring and have come down considerably from about 15 percent in 2008, according to Dale Goshaw, president of the Chippewa Valley Apartment Association.

Even locations little affected by the recession have followed a similar path. Unemployment in Grand Forks, N.D., has been consistently below 5 percent for better than a decade. Its typical vacancy rate runs about 5 percent to 6 percent, according to John Colter, association executive of the Grand Forks Board of Realtors. But vacancies had been on the rise, hitting 9 percent as recently as early 2011, Colter said, mostly because of a couple of major new multifamily developments that opened in the market.

Chart 1
Volatile economy and housing markets
Twin Cities home sales, multifamily construction and rental vacancies



Shaded areas denote recessions.
Sources: Marquette Advisors, U.S. Census Bureau

Demand gobbled up that supply, and then some. In February of this year, vacancies in the Grand Forks area were "a little north of 3 percent, so it's really tight. … It kind of surprised me," Colter said.

That's almost soft compared with the western part of the state, where the oil boom has put a premium on anything with a roof. In Williston, a typical two-bedroom unit used to rent for $500 to $600 a month and today goes for $1,200 to $1,400, according to Neal Eriksmoen, president of Appraisal Services of Fargo, who does appraisal work across the state. "Those on limited income can't live there anymore." (For more discussion of housing in the oil patch, see the April 2012 *fedgazette*.)

The breakneck pace of activity in the oil patch makes it an anomaly, and in more industry sectors than rental housing. But it's not the only region that has faced a fairly tight rental supply for a number of years. For example, a late-summer survey last year in Mankato,

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One of the Minneapolis Fed's congressionally mandated responsibilities is to gather information on the Ninth District economy. The *fedgazette* is published quarterly to share that information with the district, which includes Montana, North and South Dakota, Minnesota, northwestern Wisconsin and the Upper Peninsula of Michigan.

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Minn., of more than 1,100 rental units (about 13 percent of that market) found exactly two market-rate units available for rent. "Our vacancy rate has never been high," said Patti Ziegler, housing program coordinator for the city of Mankato. Three other surveys between 2006 and 2010 found vacancy rates between 1.7 percent and 4.9 percent.

Supply clues

In light of a weak recovery, the current tightness in rental units might seem unusual. But it's no fluke, because the sector's fundamentals are solid—in large part because of events that stem from the recession. For example, persistently high rates of home foreclosure are creating steady new demand for apartments, and the housing collapse has kept many would-be home buyers on the sidelines—in their apartments or looking for one. Positive (if slow) job growth since the recession is also generating some rental demand.

This steady rental demand is running headlong into a dearth of available units, the result of a near shutdown in new construction after the recession. For example, across the dozens of municipalities in the Twin Cities region, multifamily building permits plunged from more than 7,000 units annually from 2002 to 2004 to about 950 units in 2009 (see Chart 3). To give that number some context, Minneapolis alone averaged more than 1,000 units on an annual basis from 2002 to 2006. But it, too, followed the same pattern. During one 12-month period from late 2008 into 2009, the city approved permits for just 15 multifamily units.

Elsewhere across the Ninth District, permits appear to take a slightly less steep path—dropping by about half of their peak. But that's due in part to stable building activity in a couple of markets with lots of renters. Fargo, for example, experienced phenomenal growth in rental housing, averaging more than 1,000 units between 2002 and 2005. Yet when the boom wore off, the region simply went back to its long-run average of about 600 units. Last year, it was back up to 900 units.

"North Dakota is its own ecosystem. It's not necessarily recession-proof, but just about. And Fargo just keeps rolling along," said Eriksmoen, who has conducted a local rental survey for about 20 years. "When the market here goes flat, that's our downturn." Rental vacancies were above 7 percent in 2007 thanks to the surge in new units. Despite continued building, the region's vacancy rate has slowly trundled lower, hitting 4.1 percent in the first quarter of this year, according to Eriksmoen.

Other cities that failed to keep building, even those with large rental housing sectors, appear to be getting squeezed more tightly. Bozeman, Mont., is 56 percent rental housing, yet had a vacancy rate of 1.8 percent last year, according to a March housing study there. The squeeze comes in large part from an enrollment boom at Montana State University, combined with a crash in the number of multifamily units built in Bozeman and nearby communities in Gallatin County, from a peak of almost 700 units to mere dozens last year (see Chart 4).

Compounding the supply problem in many cities: While new construction hibernated, demolition hammers were still busy. The exact toll is hard to calculate. "Among data we wish we had are how many units are lost every year," said Mark Obrinsky, vice president of research and chief economist of the National Multi Housing Council (NMHC), which represents large apartment firms nationwide. The organization has estimated that somewhere around 100,000 units are lost from aging and other factors across the country every year, or about 0.75 percent of existing supply. At that rate, the number of units coming into the market in 2008 and 2009 "was kind of like a net zero," Obrinsky said.

High rates of home foreclosure are creating steady new demand for apartments, and the housing collapse has kept many would-be home buyers on the sidelines—in their apartments or looking for one. Positive (if slow) job growth since the recession is also generating some rental demand.

Local checks suggest something similar. Minneapolis saw the demolition of close to 1,100 units of multifamily housing (and about 250 single-family homes) from 2007 to 2011, according to annual *Minneapolis Trends* reports. With little new construction and a fair amount of demolition, Duluth, Minn., saw a cumulative net loss of 40 rental units from 2009 to 2011, according to an April city housing report.

Add it all up, and it wouldn't have been difficult to predict the current tight environment. Obrinsky said it was widely believed that "we were going to see a mismatch in a fairly short period" from a shortfall of renters to a scarcity of rental units. "Two years ago, people were optimistic about where we'd be right now."

Outlook: Good times

Given some of the fundamentals, people on the business end of rental markets are upbeat across the district and the nation.

In Billings, Mont., rental vacancies peaked in 2009 at around 6 percent—a comparatively low peak attributable to the fact that the city "never saw superstrong growth" before the recession and has thus not experienced the vacancy pain seen elsewhere, according to Howard Sumner, a real estate consultant there who has gathered local rental market data for 30 years. Vacancies have since plunged to 2.4 percent, with the number of available units advertised in late April down 17 percent from the same period a year ago.

Sumner himself owns a number of rental units, including a 12-unit property he bought this spring. "I believe we've turned the corner and are now on the up-slope, and that's where you make your money." Sumner said development of new units "is just starting to get its feet under itself." He had heard some talk of an outside developer building as many as 1,000 units, "but nobody intelligent would go and build that many. … You need strong increases in cash flow before you can justify the increase in new units."

Renters in most cities can expect upward pressure on rents going forward, though rent increases are cushioned by the fact that they have been particularly modest since the recession, and longer in some markets (see sidebar

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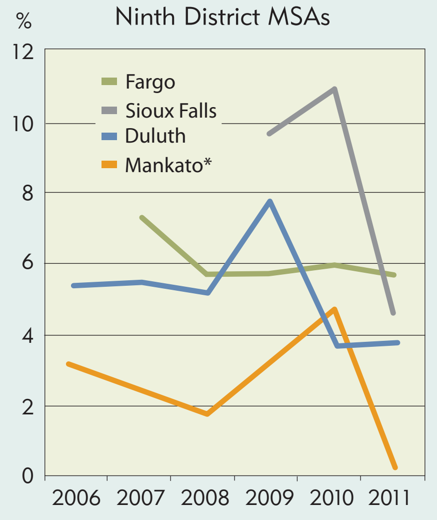
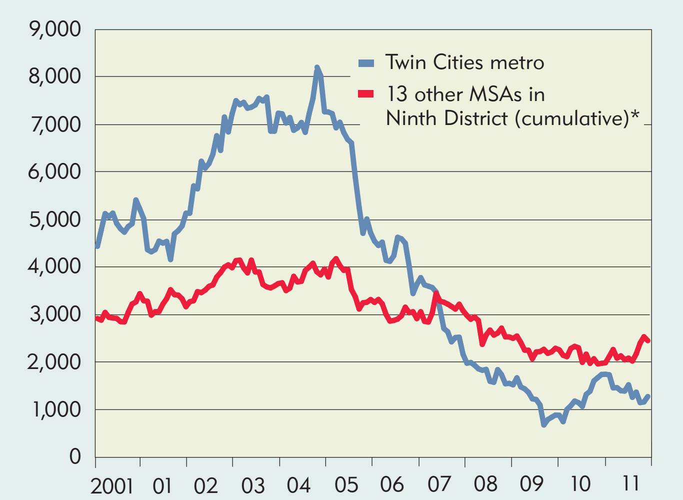
Chart 2
No vacancy
Rental vacancy rates in Ninth District MSAs



*2007, 2009 not available

Sources: Appraisal Services, Inc.; South Dakota Multi-Housing Association; City of Duluth; Community Partners Research

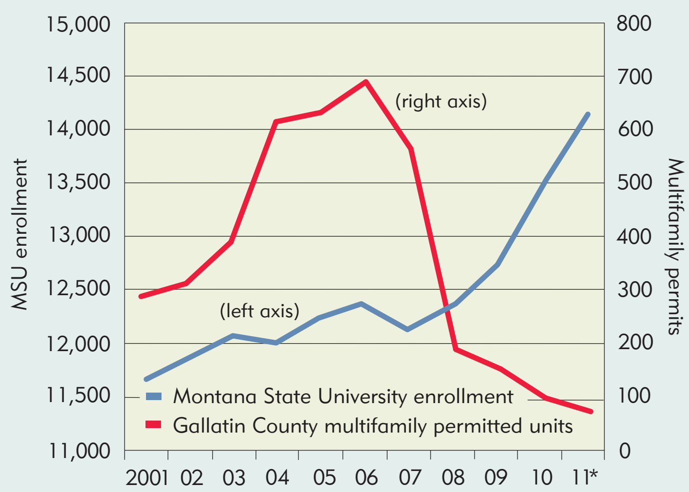
Chart 3
The other home-building bust
Multifamily housing permits, 12-month moving sum



*Billings, Bismarck, Duluth, Eau Claire, Fargo, Grand Forks, Great Falls, La Crosse, Missoula, Rapid City, Rochester, Sioux Falls, St. Cloud

Source: U.S. Census Bureau

Chart 4
Bozeman rental market playing catch-up with MSU



*Estimate

Sources: Office of Planning & Analysis, Montana State University; U.S. Census; City of Bozeman

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on page 6). Sumner projects rent increases of 5 percent to 8 percent in Billings over the next 12 months. Twin Cities rent is predicted to increase about 5 percent for this year and next, thanks to vacancy rates that are expected to remain below 4 percent, according to CBRE, a real estate consultancy.

Development of new units has started to stir as a result. The number of new units has not fully rebounded to prerecession levels in the Twin Cities, MMHA's Rippe said, "but there's a lot in the pipeline being proposed." More than 300 units were permitted in January this year in the Twin Cities, and there are whispers that as many as 2,000 new units might get built, most of them in downtown and uptown Minneapolis. "I think the rental market is cautiously optimistic. We're doing a whole lot better than we were two years ago."

Demand is also expected to stay strong. Home foreclosures have been a big source of new renters. Though foreclosures dipped slightly in 2011, they are nonetheless expected to remain elevated and possibly even increase again this year. Banks repossessed fewer properties in 2011 compared with 2010, due in large part to the investigations surrounding so-called robo-signings and bank foreclosure procedures, which delayed foreclosure processing, according to RealtyTrac, an online foreclosure clearinghouse. (High foreclosures have also led to an increase in owner-occupied homes being converted to rental units. For more information on this trend, see the web-exclusive July *fedgazette* article.)

Should robust job creation ever return, there is also considerable pent-up demand waiting to be unleashed on the rental market, as the household consolidation forced on many by the recession gets reversed. The large millennial generation also is moving into prime household-forming years, and many have been forced to live with roommates or, worse, parents. A recent Pew survey found that 39 percent of all adults ages 18 to 34 say they either live with their parents now or moved back in temporarily in recent years.

A March 2012 report by the National Association of Real Estate Investment Trusts points out that the normal rate of household formation—from population growth, children moving from parents' homes, divorce and other demographic events—is a little over 1 percent annually. Over the past four years, however, annual household growth has been half that rate. Some level of restrained demand is normal during recessions, but NAREIT's review of 50 years of data suggests that current pent-up demand was three times higher at this point compared with past recoveries, and represented approximately 2 million households.

Cyclical or temporary?

Many sources also believe there is a new wild card in play—namely, the effect of the recession and housing slump on people's attitude toward homeownership.

At the national level, homeownership grew from 65 percent of all households in 1995 to 69 percent in 2005. Today, it's back to a shade over 65 percent, according to U.S. Census Bureau figures. Rates in the Ninth District generally have followed the same slope (see Chart 5). Minnesota's homeownership rate, among the highest in the country in 2005, has witnessed a particularly long slide.

Whether or not this is a cyclical, temporary shift or a more permanent one with lower homeownership and higher renter levels will be revealed over time. In the meantime, there's a fair amount of crystal ball reading.

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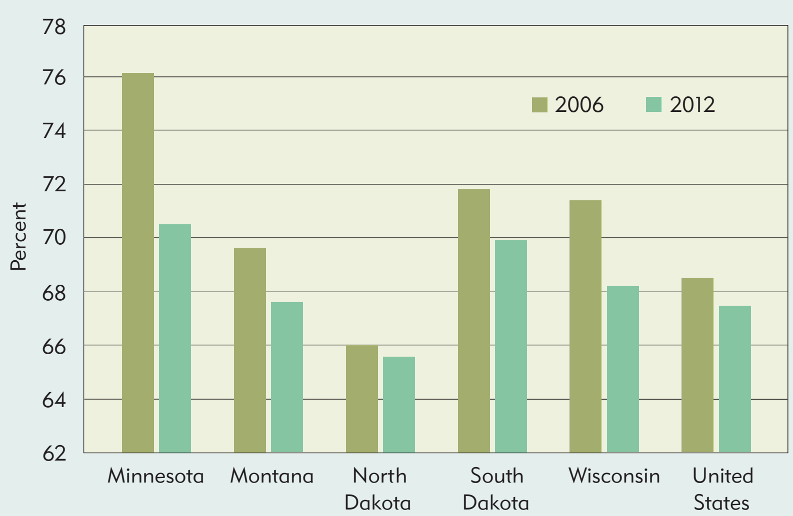
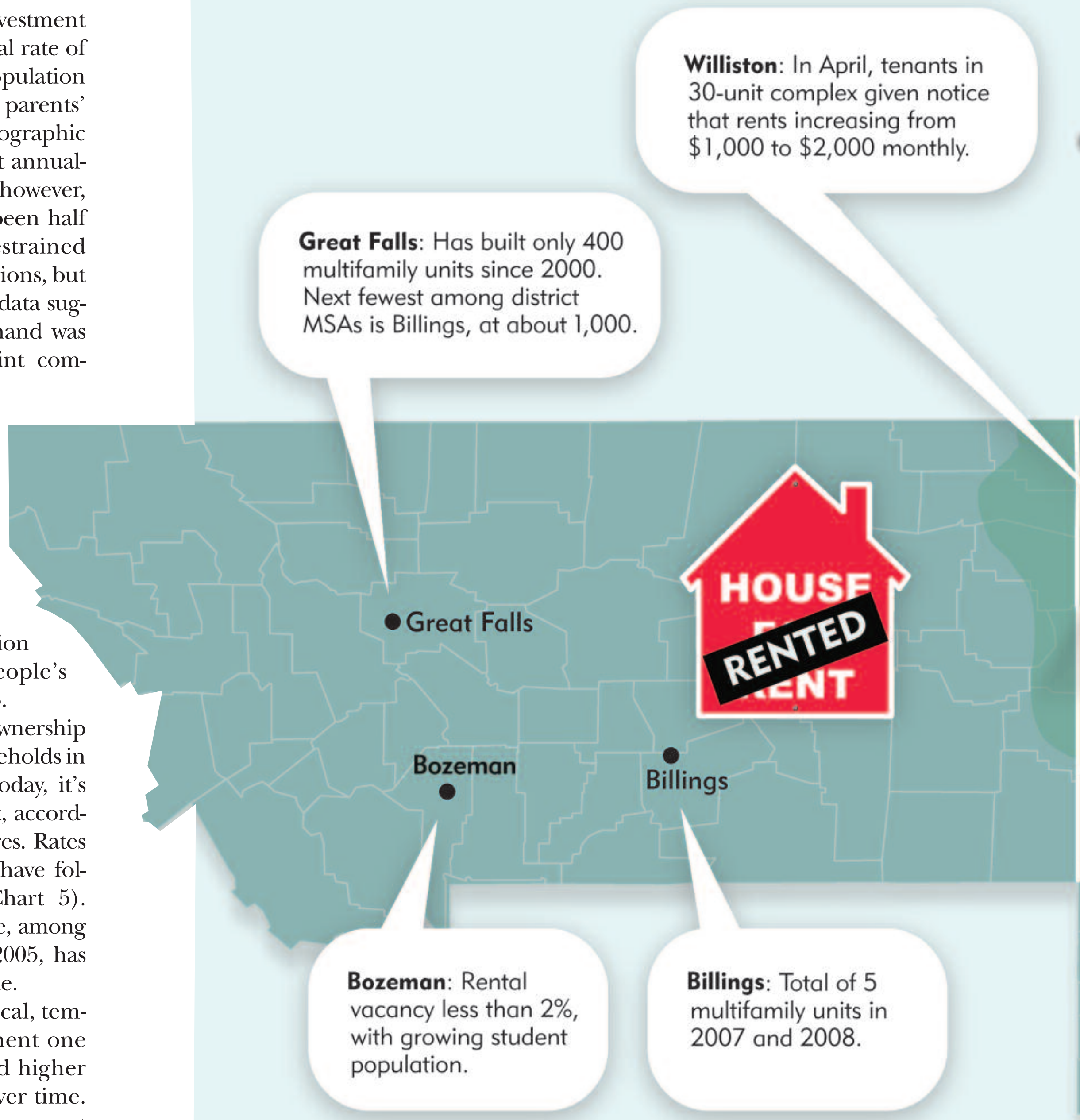
Chart 5

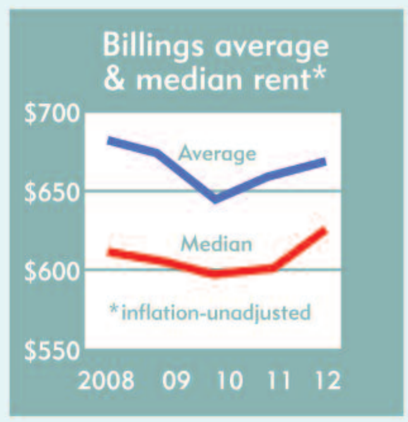
How low will they go?

Homeownership rates, first quarter

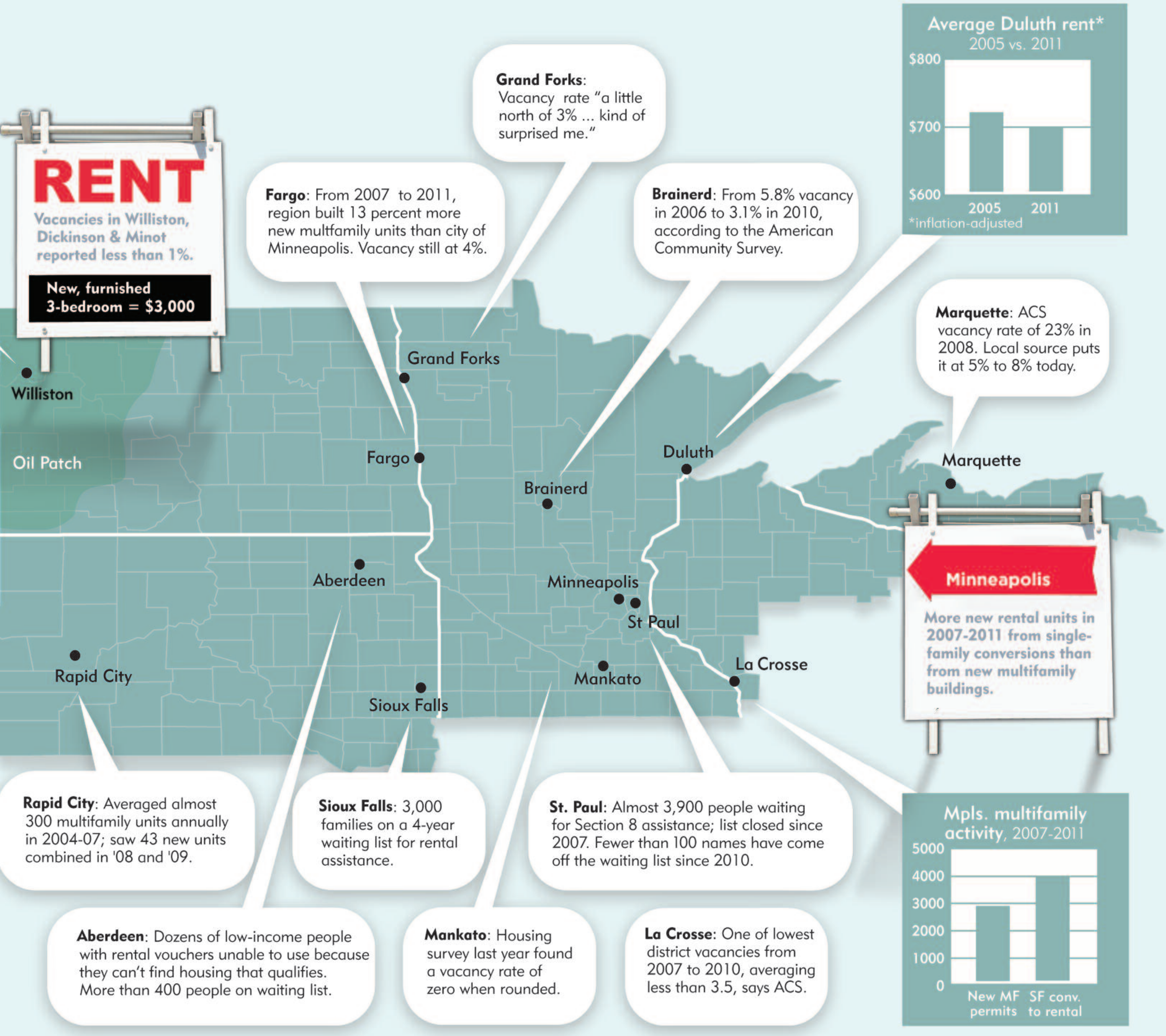


Source: U.S. Census, Housing Vacancies and Homeownership





Renters in most cities can expect upward pressure on rents going forward, though rent increases are cushioned by the fact that they have been particularly modest since the recession, and longer in some markets.



Should robust job creation ever return, there is also considerable pent-up demand waiting to be unleashed on the rental market, as the household consolidation forced on many by the recession gets reversed. The large millennial generation also is moving into prime household-forming years, and many have been forced to live with roommates or, worse, parents.

Rental prices: On the rise after a nice slumber (for renters)

A tight rental market is likely to be a wake-up call for rents that have been mostly flat for some years.

Mary Rippe, president of the Minnesota Multi Housing Association, said that some MMHA members "see rent levels at roughly the same level as 10 years ago," after considering inflation and annual maintenance costs. Many are viewing the current environment as a chance to catch up on postponed capital investments, she said.

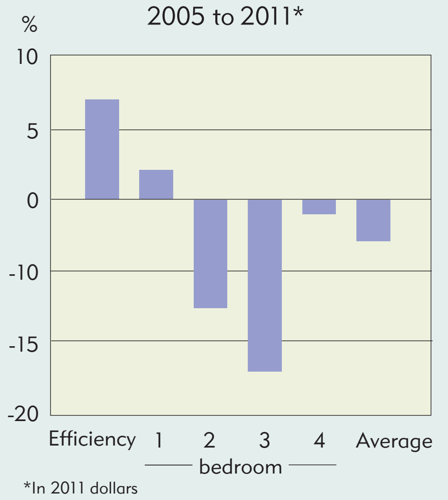
Nationally, rent levels were down about 6 percent (combined) in 2008 and 2009, and have increased about 7 percent over the subsequent two years, according to Mark Obrinsky, from the National Multi Housing Council. "There has been a clear tick up in rents, but [owners] are trying to recapture growth that was lost" right after the recession. Rents now, he said, are only about 1 percent higher than before the recession, and that doesn't factor in inflation. "Renters don't care about inflation adjustments."

But property managers do, because inflation eats into operating margins if rents aren't also rising. Macro data on median rental prices from the American Community Survey (conducted annually by the U.S. Census Bureau) show that on an inflation-adjusted basis, many Ninth District markets saw median rents actually decline from 2006 to 2010 (see Chart 1).

Local data and anecdotes support the stagnant rent trend suggested by the ACS. The city of Duluth, Minn., does an annual rental survey involving more than 2,000 units. It shows that rents in 2011 have mostly declined since 2005 on an inflation-adjusted basis, increasing only slightly for the smallest units (see Chart 2).

In Marquette, in the Upper Peninsula of Michigan, Look Realty manages about 140 rental units. Owner Steve Pelto said he consistently has a vacancy rate of 1 percent to 2 percent, though it's higher regionwide—between 5 percent and 8 percent, depending on the timing of new rentals that have been consistently opening in a western township. Those new units are one reason rent increases have been marginal.

Chart 2
A lid on Duluth rents
Percent change in rental prices
2005 to 2011*



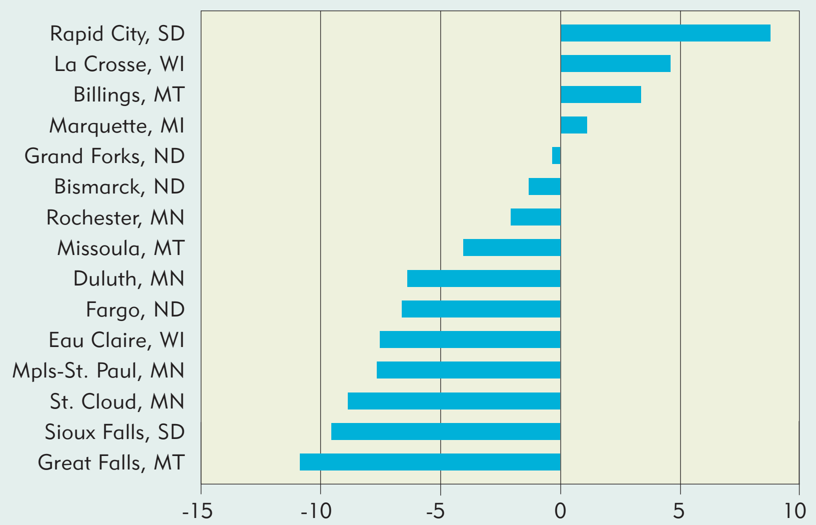
*In 2011 dollars
Source: City of Duluth 2011 Housing Indicator Report, April 2012

"I might raise the rent from $640 to $650 or $655," said Pelto, and that increase gets eaten up quickly by property maintenance and upgrades, like new windows, carpet replacements and decent appliances, which he said help him retain renters.

At the same time, low vacancy rates are allowing property owners in some markets to finally reel in the rent subsidies and other incentives that were often required to attract and retain tenants over the past decade. For example, in the Twin Cities, so-called asking rents increased a little over 2 percent last year, according to Marquette Advisors, a real estate services firm. But as vacancies have declined, effective rents (asking rents minus any cash-like perks) are slowly closing the gap (see Chart 3). Last year, effective rents in the Twin Cities increased by 4 percent, with a similar increase expected this year, according to Marquette Advisors.

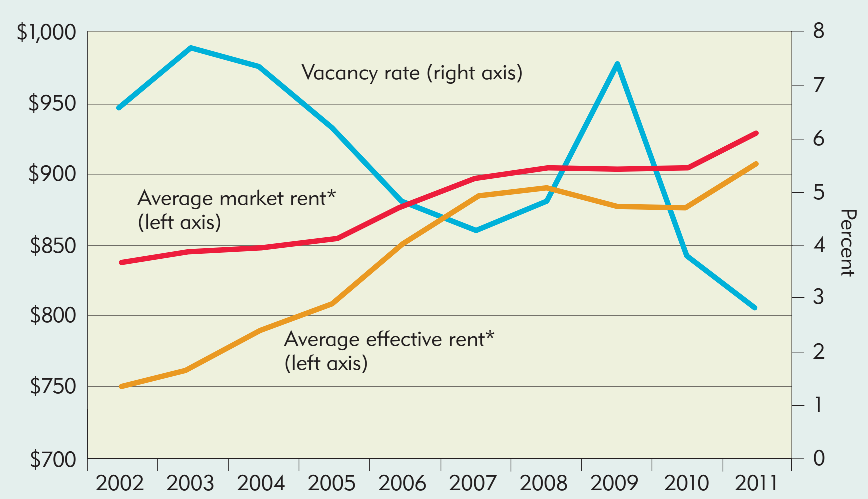
—Ronald A. Wirtz

Chart 1
A renter's honeymoon
Percent change in median rent, 2006 to 2010*



*In 2010 dollars
Source: American Comunity Survey, U.S. Census Bureau

Chart 3
Rent perks drying up
Twin Cities market rent, effective rent and vacancy rate



*Not adjusted for inflation
Source: Marquette Advisers

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Many believe that renting will grow over the next few years. A report by the Urban Land Institute called existing apartment owners "golden." All signs, it said, "point to more Americans renting and a further decline in homeownership as defaults on mortgages and foreclosures continue." Tighter lending standards with high down payments will also keep prospective home buyers in their apartments.

Local sources concurred. "I think there's a shift in the mood" toward renting, said Rippe, from the MMHA. "Now, first-time home buyers are reassessing whether that's what they want."

That opinion is popular, but not universal. Steve Pelto, owner of Look Realty in Marquette, Mich., said he believes that home buying is a "trend that seems to be coming back. People are reaching the conclusion that to own a home is cheaper than you can rent." At prevailing rates, the mortgage payment on a $130,000 home would be less than $600 a month. Some have complained about the difficulty of qualifying for a mortgage, but Pelto said he has one client looking at an average house, "and I have two bankers fighting over the mortgage."

Falling home prices might eventually pull many renters back into the ownership market, "but not right now," said Obrinsky, from NMHC. "There's no reason to rush back into the market." He pointed out that homeownership-to-rent ratios don't correlate very well with prices. When home prices are going up, affordability goes down, but people keep buying because they don't want to wait to buy and have to pay more. The inverse is also true: As prices fall, affordability improves, "but no one is buying a house" because there is little danger in waiting, Obrinsky said.

"Renting is becoming the new big thing," said Brent Hayden of Renter's Warehouse, who is 28 years old. "Right now, it's not cool to be a homeowner. My generation isn't a homeowner. It's foolish to own a home if you're going to leave in less than five years" because you won't leave with any equity.

Siefken, from the South Dakota MHA, is himself a long-time renter and property owner, and has long believed in the value proposition of renting. "I was the odd man out for a lot of years," he acknowledged. But there's more than meets the eye in a low mortgage payment.

"[Renters] seem to understand that for $750 in rent, you're not going to get a house for that" because there are myriad other costs to ownership, including property taxes, insurance, upkeep and in some cases utility bills that were previously included with rent. The cost relationship "was not always clear in the past, and it didn't need to be" because homeowners could just sell at a profit if things ended up being too expensive, Siefken said. Those days are gone, and would-be buyers have been chastened by the glut of underwater homeowners who can't get out from underneath their mortgage.

That mindset is a large part of the business model for Brent Hayden, CEO and founder of Renter's Warehouse, of Golden Valley, Minn., which was named the largest and fastest growing property management company in Minnesota by *Inc.* magazine.

The company was started in 2007 and manages about 1,500 rental units on behalf of property owners, all within about a 75-mile radius of the Twin Cities. The large majority are single-family homes, condos and town homes, according to Hayden—many of them "unintentional accidental" owners who bought a house and now need to sell it, but can't find a buyer. So they turn to Renter's Warehouse, where they find willing (and screened) renters.

"Renting is becoming the new big thing," said Hayden, who is 28 years old. "Right now, it's not cool to be a homeowner. My generation isn't a homeowner. It's foolish to own a home if you're going to leave in less than five years" because you won't leave with any equity. Hayden expects rents to go up this year and that market conditions "will be the best they've been in 10 years." He believes the rental market is on a five- to seven-year growth cycle. "It's the best time to be a landlord."

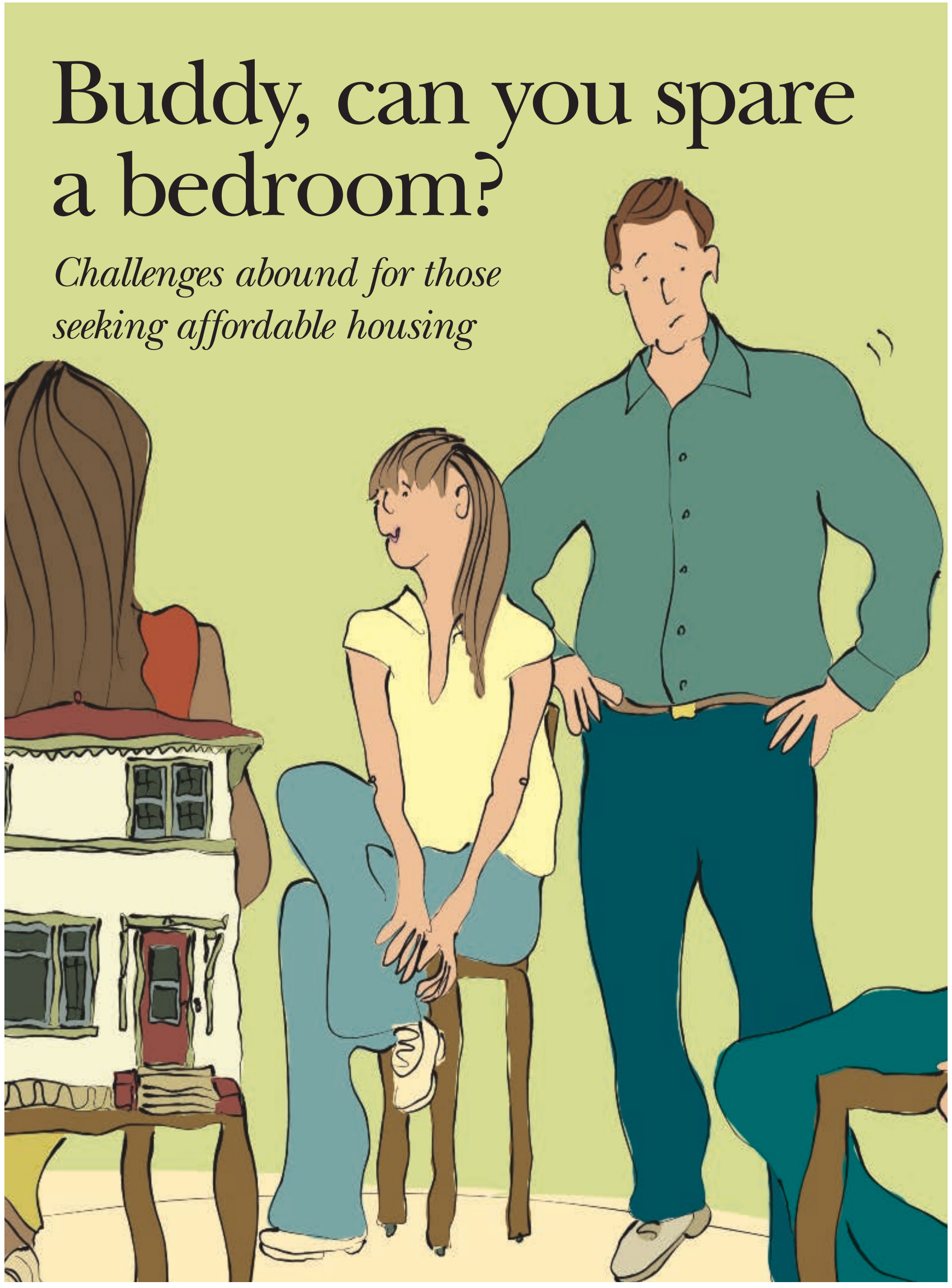
Many others are optimistic, but less willing to look quite that far out. "This year and next will be very good years," Obrinsky said. Two years from now, he said, "is sort of wait and see," depending on job growth and the market's reaction to tight vacancies. "Many believe we'll start to see new units pick up in a substantial way."

On the question of how far ownership rates might fall, "we see the same division [of opinion] in our industry," Obrinsky said. "We're inclined to think there is potential for a long-term shift. It's not going to go to two-thirds rental, but small changes can mean big things" for the industry.

Some have suggested that the national rate of homeownership might go to 60 percent. "I'm skeptical it will go that low, even on an interim basis, but I can't rule it out. Things that you thought couldn't happen before have." f

Buddy, can you spare a bedroom?

Challenges abound for those seeking affordable housing



By RONALD A. WIRTZ
Editor

Market swings create winners and losers. So it is in rental markets, where property owners appear to finally have some breathing room with profit margins, while renters are starting to feel a little squeezed.

It's almost to the point of suffocation for low-income renters. There are virtually no vacancies in this market segment to begin with, and when demand increases—from job loss, home foreclosure and the like—many low-income renters have to scramble for shelter.

"Certainly, we know homeless counts are going up. And we know that families are doubling up in apartments. All of the shelter system is at capacity. And people are also having two or three jobs to help cover rent" at more expensive units, said Sue Speakman-Gomez, president of HousingLink, a housing data and advocacy group in the Twin Cities. People of very low means are having more difficulty obtaining an affordable unit, she added, but so are those who have "any other barrier in their history," such as being unemployed or having a prior eviction or criminal conviction on their record. For these would-be renters, "it's significantly harder to find a place," she said.

Patrick Dienger is the executive director for the La Crosse County (Wis.) Housing Authority and has been involved in public housing for 22 years. Over that time, "I've seen things fluctuate," he said. "But I see this as a particularly desperate time."

Dienger said that "the calls to my office have increased" with the rise in foreclosures. Smaller households are moving in with mom and dad, or maybe with their kids. "Or they move from friend to friend until the landlord gives notice" when occupancy limits are exceeded. Other options include the YWCA, the Salvation Army and a local warming shelter, though the latter is not designed for overnight stays, and users have to sleep sitting up. "There're also campers in the summertime, and park benches."

While the past decade provided relative stability for many renters in terms of costs (see cover article), people and families of modest means faced challenges even before the recession. Rampant job loss, flat wages and a surge in home foreclosures since the recession have put even more pressure on renters in a market with few vacancies, compounded by the fact that construction of new units for low-income households hasn't kept up with demand.

As a result, more renters are paying a high percentage of their income toward monthly rent, and public rental assistance programs are ill-equipped to help much. Vacancy rates in these programs, already very low, have gone to virtually zero, and waiting lists for housing assistance have lengthened to the point of system paralysis.

Wanted: Cheap digs

Though rental vacancies are tightening across the district, not all rental segments are created equal. Smaller and less-expensive units are particularly scarce as more households look to stay within tight budgets (for examples in the Twin Cities and Duluth, Minn., see Charts 1 and 2).

Low-cost housing, "from what we've heard, is the tightest market. But it always is. There will never be enough of that," said Mark Obrinsky, chief economist for the National Multi Housing Council.

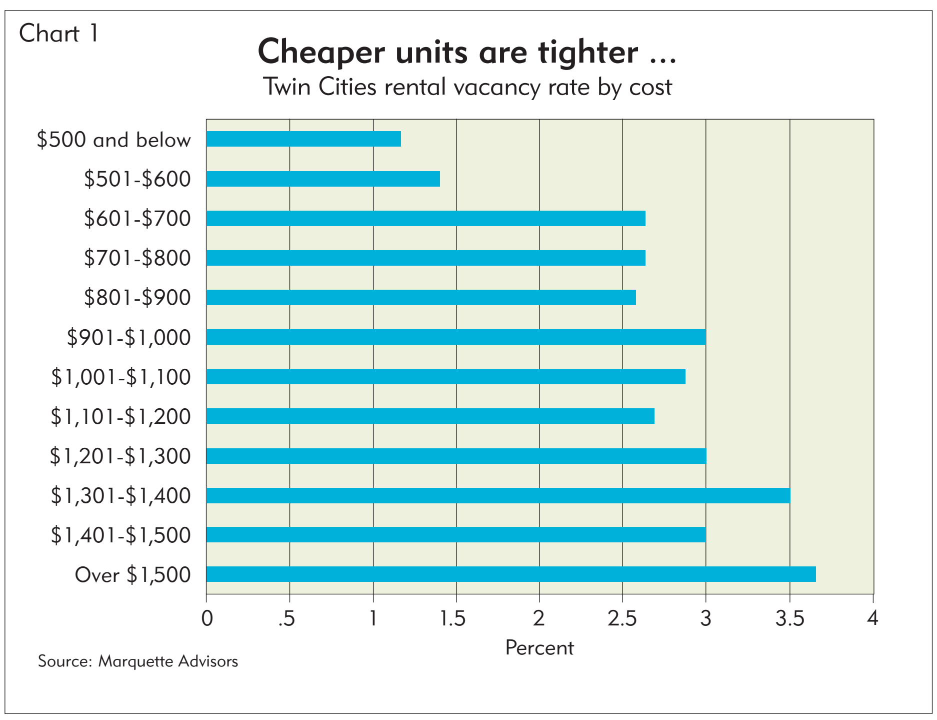
Speakman-Gomez noted that demand for low-cost housing units, especially units targeted to the very lowest income groups, "has been very high for the past decade. In my 10 years at HousingLink, there has never been a time where we have routinely seen openings in very affordable units being advertised."

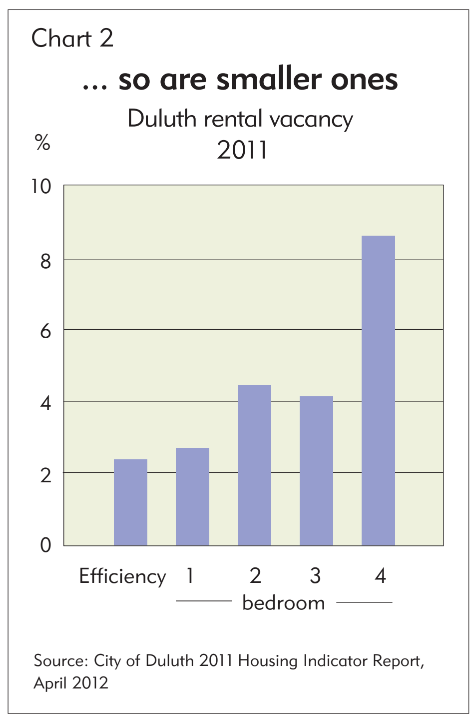
Part of the problem, along with joblessness and stagnant wage growth at the low end, is that new construction of low-income housing "is not keeping pace with demand," said Speakman-Gomez. She said thanks to creative efforts to utilize available tax credits, "we do see some production. But not enough."

Arguably, in an unconstrained market, some private developers would build units of a size and type affordable even to those of modest means. That they can't or won't is the result of myriad factors, including high land and construction costs and a panoply of local and state regulations that affect everything from minimum unit size to safety issues to parking requirements. All of this adds costs and strings out the development process. Neighborhood opposition also plays a role, particularly for smaller, no-frill units that would be affordable to low-income renters without subsidy. These and other factors increase costs and reduce (even negate) profits, pushing many private housing developers to seek better profits building units suitable for higher-income tenants.

In turn, government has become very involved in low-income housing, including the development of new units, most of which are built with the help of the federal Low Income Tax Credit, which goes to qualified investors building low-income housing. But even this activity slowed with the recession. In 2008, for example, about 3,100 low-income rental units were built in district states using the LITC—the lowest number since 2000, and about 20 percent lower than in 2006, according to program records.

At a regional level, data from HousingLink show a considerable drop-off in new low-cost units in the Twin Cities since the recession, though the





decline is smaller in percentage terms than the decline in market-rate units over the same period. Compounding the supply problem is the fact that demolitions have increased in some markets where demand for affordable units is particularly high, and these units tend to be older and in poorer condition (and thus more affordable). In 2009 and 2010, there were almost as many demolitions in Minneapolis and St. Paul as there were new affordable units in the 50-plus communities of the Twin Cities metro area (see Chart 3).

Tight housing and economic conditions—and recently, escalating rents—have pushed more households to seek public assistance. The problem is that there is little excess capacity in public housing assistance programs to help those in need. There are a variety of rental assistance programs, but the two big ones are publicly owned housing, where rents are subsidized by federal and state funding based on household income, and Section 8 vouchers that act as cash to buy down rents at qualified units.

A check of programs in several cities shows that vacancy rates are well below those of market-rate units. The St. Paul Public Housing Agency, for example, owns or manages more than 4,200 rental units. At the end of February, eight units were available, a vacancy rate of 0.2 percent; only 44 units came open at any point during the entire month. That's worse than in previous years, but only slightly. In 2002, average vacancy was 42 units (1 percent). It has slowly dwindled every year since, to 13 units (0.3 percent) in 2011 and fewer than 10 units for the past seven months.

The Section 8 program in St. Paul is just as tight. In fiscal year 2011, no new families on the regular waiting list were issued vouchers and "leased up," according to the program's annual report. Only a fortunate few in programs for veterans, the disabled and other special groups were placed.

Even those lucky enough to receive a new Section 8 voucher aren't guaranteed a place to live, because "it can be hard to find an owner willing to accept the voucher and wait the two weeks that the inspection and paperwork take to get the renters into the unit," said Speakman-Gomez. "Instead, owners are opting for renters without assistance who can move in immediately and pay rent right away."

That hasn't stopped more people from seeking help, and waiting lists have exploded. St. Paul Public Housing has 7,700 applicants on its waiting list; the Section 8 waiting list has almost 3,900 names and has been closed since 2007 due to lack of turnover—mere dozens in the past two years. In fact, around the Twin Cities, Section 8 waiting lists at six of seven county-level housing authorities were closed to new applications, and Scott County was accepting applicants only for three-bedroom units, according to an October 2011 update by HousingLink.

It's the same story elsewhere. In Sioux Falls, S.D., almost 1,800 people are on housing assistance. But there are more than 3,000 families on an estimated four-year waiting list, according to the Sioux Falls Housing and Redevelopment Commission. In Duluth, Minn., public housing vacancy fell from 3.6 percent in 2007 to 1 percent last year, and the waiting list increased by about one-third to almost 1,000, according to a city housing study. The waiting list for Section 8 vouchers increased from 1,400 to 1,800 over the same period, and the city estimated wait times at 12 to 24 months.

As a result, more renters of modest means are finding themselves in market-rate units, and many are spending more than 30 percent of their monthly gross income on rent—a rough, but widely accepted threshold for affordability. A 2011 housing affordability report by the city of Sioux Falls found that 45 percent of renters were spending above this benchmark. In Bozeman, Mont., despite a decline in home prices and rents in recent years, renters paying over 30 percent of their income for rent increased markedly over the past decade, reaching 49 percent, according to an April city housing plan. The entire state of Minnesota experienced a similar increase, according to figures from the Minnesota Housing Finance Agency (see Chart 4).

Scarce resources

Little change is expected in the short term, mostly because demand swamps supply by such a large margin. Tight fiscal conditions at every level of government don't help much, though housing assistance funding in some places has been on the uptick. In Minnesota, housing assistance channeled through about 40 different programs large and small increased from $514 million in 2009 to $727 million last year, according to the Minnesota Housing Finance Agency (see Chart 5).

Despite the funding increase, however, the number of households served dropped by 6,000 (about 10 percent) over this period, due in part to large spending increases in home-purchase, rental-construction and rental-rehabilitation programs, which are proportionately more expensive per unit served compared with direct renter assistance like Section 8 vouchers.

More affordable housing units are expected to be built this year, maybe 600, according to the Minnesota Housing Finance Agency. But with waiting lists across the Twin Cities solidly into five digits, that's a housing ripple that won't carry far.

The slow pace of new units is one reason some organizations are helping owners upgrade and preserve units while keeping them eligible for the subsidies that come with low-income renters. Speakman-Gomez said it costs 40 percent less to preserve a unit for a low-income renter than to build a new unit for the same renter.

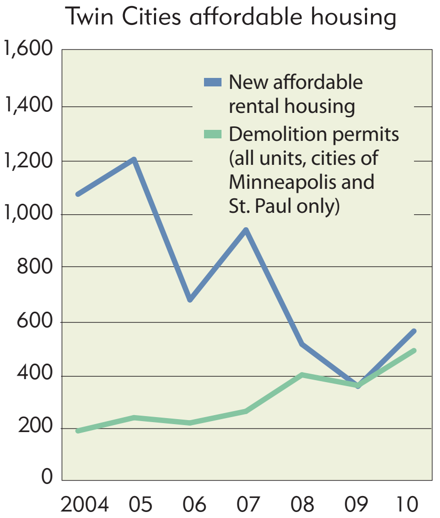
Other supply shocks might be on the horizon as well, in the form of so-called opt-outs—units that no longer want to serve the subsidized market and convert to market rate. Minnesota has 53,000 private rental units under contract to participate in various renter assistance programs, according to HousingLink. Those contracts expire on a rolling basis between now and 2040; but between 2011 and 2015, three of every eight units (37 percent) will be free to opt out of assistance programs and convert to market rate.

If history offers any insight, however, most will renew their contracts with public programs. Minnesota Housing administers project-based Section 8 contracts for more than 30,000 assisted units and thousands more for which it provides asset management oversight and/or supportive services under various income-based public housing programs. While just a small portion of contracts expire every year and have the chance to exit, as of mid-May, contracts for fewer than 100 project-based Section 8 units have not been renewed since 2010, according to Minnesota Housing.

Cam Oyen, housing program specialist from Minnesota Housing, said there "is sort of a little bubble last year and this" for expiring contracts. "But the vast majority renew. We've not seen a huge increase in the number opting out." There are several reasons. In many cases, continued program involvement might have been a prerequisite for getting financing in the first place, Oyen said. Many nonprofit property owners often have social missions and "are very motivated to stay in the program."

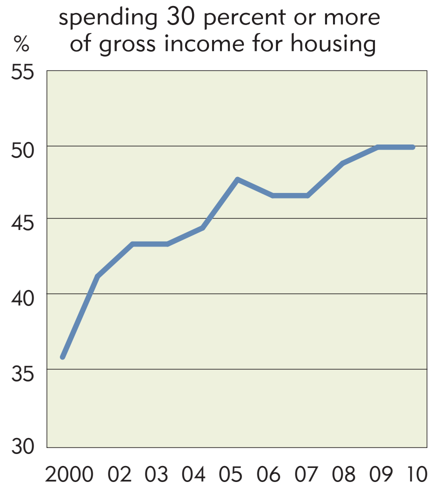
But Oyen acknowledged that current conditions in the rental sector make for "a lot of unknowns" regarding opt-outs. "Rental markets are better now, and that may be something people are watching." f

Chart 3
Add some, lose some
Twin Cities affordable housing



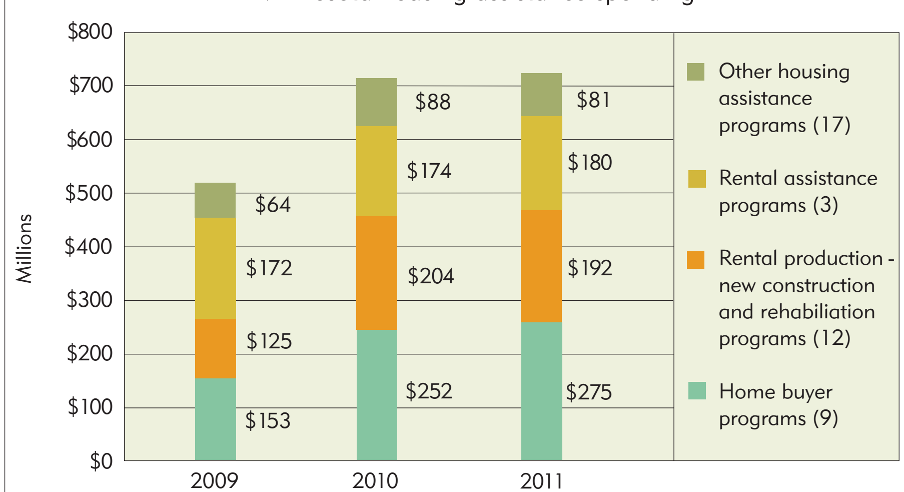
Source: HousingLink, from annual "Housing Counts" reports

Chart 4
Taking a bite out of paychecks
Share of Minnesota renters spending 30 percent or more of gross income for housing



Source: Minnesota Housing Finance Agency

Chart 5
Rent assistance has risen
Minnesota housing assistance spending



Source: Minnesota Housing Finance Agency

Sand surge

In Minnesota and Wisconsin, frac sand mining has lifted local economies—and stirred opposition

By PHIL DAVIES
Senior Writer

Photography by Bob Firth

Large piles of frac sand at a Superior Silica Sands facility near New Auburn, Wis.

Frac sand mining has been good for business at Park Service & Convenience, the only grocery store in Maiden Rock, Wis. The store derives over 40 percent of its annual revenue from Wisconsin Industrial Sand Co., a nearby mine that produces sand for use in oil and natural gas extraction. Workers buy gasoline, cigarettes, snacks and other items, and the firm purchases fuel and bottled drinks for its 50 employees.

"Without that, this business wouldn't be open," said Steve Pomahatch, a part-time employee who recently sold the store after running it for 17 years, adding that mine jobs are vital to sustaining the community of only 120 people. "The frac sand mine is the best thing that's ever happened to this village," he said.

Maiden Rock isn't the only community in the eastern part of the Ninth District that is benefiting from intensified mining of frac sand. Over the past five years, a sand rush has taken hold in west-central Wisconsin and southeastern Minnesota as mining companies seek out deposits of quartz sand suitable for "fracturing" shale rock to release oil and gas. Since 2007, over 40 frac sand mines have either opened or expanded their operations in Minnesota and Wisconsin, and over two dozen new mines have been proposed. The sand ends up at the bottom of wells in shale oil and gas fields throughout the country, including the Bakken oilfields in western North Dakota and eastern Montana.

But this burgeoning industry faces obstacles in the region that may slow mine development in coming years.

For rural communities struggling to recover from the recession, new and expanded sand mines are a boon; they bring relatively well-paying jobs, increased spending at local businesses and a stronger tax base. But not everything about frac sand is golden. Mining development also can impose costs, such as lost revenues in other industries, environmental harm and diminished public health and safety.

In many communities, new or proposed sand mines have provoked public outcry, leading counties and townships to pass moratoriums on new frac sand operations. As of June, moratoriums were in force in seven counties and several townships in Minnesota and Wisconsin.

The scale and pace of sand mining development in the region over the next few years depend partly on how communities adapt to mining activity, balancing the resource demands of mines against the impact of those demands on competing land uses, the environment and public welfare.

Logistics also has a bearing on where sand mining is likely to prosper and grow. In Minnesota, transportation bottlenecks, in particular a lack of rail capacity, may prove as big a barrier to mine development as pushback from mining opponents.

Golden sands

Geologic fate gave petroleum-rich shale beds to some areas of the country, such as western North Dakota, Texas and Pennsylvania. West-central Wisconsin and southeastern Minnesota got silica sand, tying the region economically to one of the nation's fastest growing energy industries.

In the hydraulic fracturing process, a mixture of water, chemicals and sand is injected into wells under high pressure to open cracks and pores in shale rock, freeing trapped oil and gas. Tough grains of silica sand prop open (frac sands are also known as proppants) the fissures, allowing fluids and gases to flow into the wellbore. Fracking a single well consumes up to 1,600 tons of sand.

Not just any sand will do the job; the best frac sand consists of nearly pure quartz, with spherical granules—a type of sand that is abundant across large swaths of Minnesota and Wisconsin. In many areas, sandstone formations laid down in ancient seas are close to the surface, making them easy to dig.

Silica sand has been mined in the region for over a century for use in glassmaking, foundry molds and abrasives. But in the 2000s, the shale oil and gas boom dramatically increased demand for frac sand, encouraging increased production and large-scale mine development. Nationwide, frac sand production almost doubled from 2009 to 2010, to 12.1 million tons, according to the U.S. Geological Survey.

The figure is undoubtedly low; state data are scant, but last fall the Wisconsin Department of Natural Resources (DNR) estimated that the state was producing slightly more frac sand annually than the national USGS figure.

High-grade frac sand commands a premium in the marketplace: $60 to $80 per ton, over five times the price of construction sand and gravel. Oil companies and oilfield service firms can pay over $300 per ton for processed sand delivered to the wellhead. No wonder that large mining firms, many of them based outside the region, have invested hundreds of millions of dollars in mines and processing facilities.

The typical frac sand mine is much larger than a traditional sand mine, ranging in size from 50 acres up to several hundred acres. Mining companies build big to take advantage of economies of scale, said Tom Woletz, a senior manager with the Wisconsin DNR who tracks frac sand mines in the state. "They're not dinking around," he said. "They want to get in and move a lot of mineral fairly quickly."

Most mining operations include pro-

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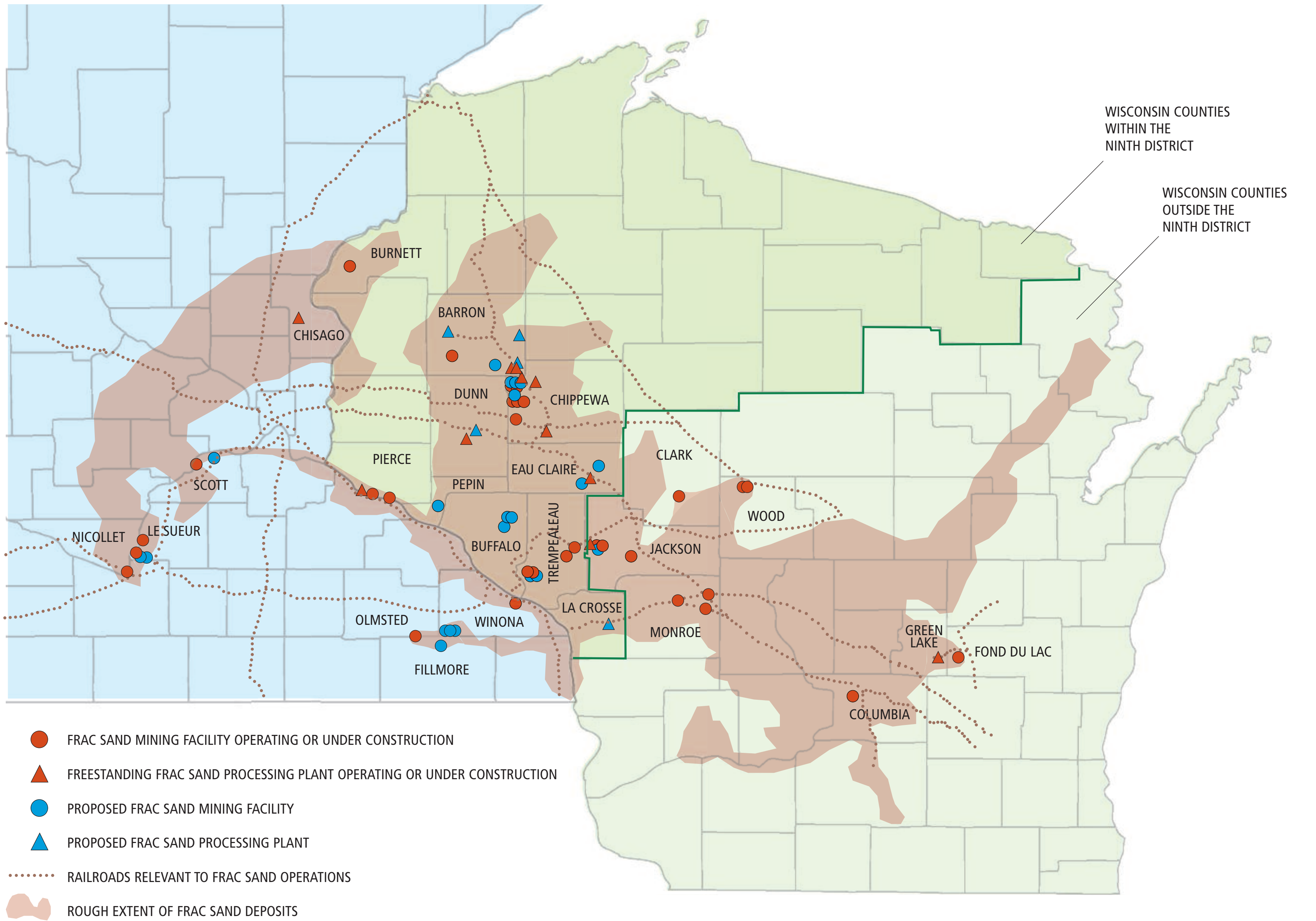
The district's sandbox

Existing and proposed frac sand mine operations



Sources:
Mine locations: State and county permitting records; industry contacts / Sand deposits: U.S. Geological Survey / Rail data: Minnesota and Wisconsin departments of transportation

"They're not dinking around. They want to get in and move a lot of mineral fairly quickly."
—Tom Woletz, senior manager, Wisconsin DNR

"There's talk of open pit mines and processing facilities going in behind the village, and that traffic would come right past our front door."
—Alan Nugent, gallery owner, Stockholm, Wis.

Along the scenic Mississippi River frac sand mining means more railroad and trucking jobs…

… but also worry for entrepreneurs such as Alan Nugent who rely on tourist traffic.

Frac sand mining invigorates local economies …


Superior Silica Sands mine and washing plant near New Auburn, Wis.

Mine spending is crucial for Park Service & Convenience in Maiden Rock, Wis.


Dried sand shipped from this New Auburn plant is a valuable commodity.


Wisconsin Industrial Sand recently expanded its facility in Maiden Rock.

Night-shift mine workers come for breakfast at the Sunshine Cafe in New Auburn.

"Frac sand is the biggest and best thing that's happened in our lifetime in Barron County. I see frac sand becoming one of the county's biggest sources of [business] revenue, moving forward." —Bob Missling

Sand from page 10

cessing and shipping facilities either onsite or nearby—sand washing and drying plants, and loading docks for trucks or railcars. These facilities are expensive—construction costs for a new processing plant average $50 million—but they can be up and running in a matter of weeks once building and environmental permits are secured. Mining is simply a matter of excavating a pit or biting into sandstone bluffs with backhoes and front-end loaders.

Dig, baby, dig

Frac sand mining is well established in Wisconsin, with concentrations of activity in the Maiden Rock area, near Chippewa Falls, and in Trempealeau and Monroe counties (see map on page 11). The DNR estimates that there are over 60 frac sand mines in the state, although many of them are small pits or operations that have mined silica sand for decades. Since 2007, 10 new frac sand mines and seven processing plants have opened in Wisconsin counties within the district.

Many new, large mines are situated on rail lines, the most economical shipping method. (Rail patterns dictate that most frac sand mined in the region goes to shale oil and gas fields in the eastern and southern United States, rather than to the Bakken.) For example, mines in Chippewa and Barron counties ship sand on small, rural rail lines to connect to the networks of Canadian National, BNSF and other continental railroads.

Major frac sand operations in the district portion of Wisconsin include a new $60 million processing plant in Chippewa Falls owned by EOG Resources Inc., a Texas-based oil and gas company that mines sand for its own use; two sand processing plants and associated mines near the Village of New Auburn on the border between Barron and Chippewa counties; and the Maiden Rock mine, an underground facility that last year nearly doubled its frac sand production to over 1 million tons annually. Wisconsin Industrial Sand, a subsidiary of a large minerals supplier based in Ohio, also operates sand mines in Bay City and Menomonie.

Numerous new sand mining operations are in the works in Wisconsin, among them another mine under construction in Barron County and a large mine and processing plant being developed in Eau Claire County by Hi-Crush Proppants of Houston, Texas. On a smaller scale, established gravel and sand pits are expanding to exploit the frac sand market, and cranberry farms are excavating frac sand as a sideline.

In Minnesota, the frac sand industry is less developed, with only five known mines in operation. Unimin Corp., a national producer of industrial minerals, owns two of the biggest—the Kasota and Ottawa mines north of Mankato.

The sand surge rolled into Minnesota later than it did in Wisconsin—new mine proposals by large mining firms started cropping up in 2010. That's partly due to geology; accessible deposits of high-grade sandstone are less extensive in Minnesota than in Wisconsin, found mainly in a handful of southeastern counties and the Minnesota River Valley. Another impediment to mine development in Minnesota is logistics—the task of getting millions of tons of sand to distant markets.

In contrast to Wisconsin, southeastern Minnesota has little rail capacity to ship sand to transportation hubs such as Winona and the Twin Cities. Hundreds of miles of rural rail lines have been abandoned since the 1970s, leaving trucks as the only viable means of moving sand overland. In addition, much rail and barge capacity in Winona is already taken up by agricultural commodities, said Jeff Broberg, a Rochester-based environmental consultant who has represented frac sand mine developers. "People haven't really come to grips with the economics or the logistics," he said. "The logistical bottleneck is huge."

Despite these limiting factors, several new mines have been developed or proposed over the past couple of years. The 110-year-old Biesanz Stone Co. quarry in Winona began mining frac sand in 2011, and last fall several mines were on the drawing board in the southwestern corner of Winona County, an area with outcrops of St. Peter sandstone. Another proposed mine in Scott County southwest of the Twin Cities would cover 1,000 acres along the edge of the Minnesota River Wildlife Refuge—including the grounds of the Minnesota Renaissance Festival held each fall.

Paychecks and millionaires

In just a few years, frac sand mining has lifted local economies—mostly in Wisconsin—by providing well-paying jobs, raising household incomes and pumping revenue into area businesses.

Unemployment in Barron County, Wis., topped 11 percent at one point during the recession. But since 2010, sand mining companies have invested hundreds of millions of dollars in the predominantly rural county—making its economic development director bullish on the future.

"Frac sand is the biggest and best thing that's happened in our lifetime in Barron County," Bob Missling said. "I see frac sand becoming one of the county's biggest sources of [business] revenue, moving forward."

Mining companies offer badly needed jobs to rural areas. No official job numbers exist for sand mining in the district—the industry is too new. But it's evident that expanded mining has contributed to rising

Economic gains from frac sand mining don't come without costs; mining activity can damage infrastructure and the natural environment, and compromise public health and safety.

private employment since the recession. On average, one frac sand mine employs between 10 and 20 people, while 40 to 50 people work at a typical processing plant, according to industry sources. So over the past five years, new mines and processing plants—not counting existing, expanded mines—have created roughly 500 jobs in the district portion of Wisconsin.

Hi-Crush Proppants' $48 million mine and processing plant, nearing completion on the outskirts of Augusta, Wis., southeast of Eau Claire, will employ up to 75 workers, said Chad McEver, vice president of business development for Hi-Crush. Pay for entry-level plant workers starts at $16 per hour, with skilled equipment operators and supervisors earning higher wages.

At many mines, large numbers of trucks are needed to haul frac sand to processing plants and rail terminals, creating job openings for truck drivers and crews. EOG Resources contracts with a local trucking firm to haul sand to its Chippewa Falls processing plant, and in Winona there's plenty of work delivering sand to riverside trains and barges for CD Corp., a local firm with 40 employees and a fleet of 30 trucks.

Business slackened during the recession when coal shipments from Winona declined, said co-owner Dan Nisbit. But increased flows of frac sand, mostly from Wisconsin mines, have more than made up for that; since 2010, CD Corp.'s revenues have increased 35 percent and it has hired seven more workers. "We saved several jobs and were able to add jobs; otherwise, we would have had significant layoffs," Nisbit said.

Besides jobs, sand mining has created a "wealth effect" in rural communities—lucrative payments to landowners who sell or lease their land to mining companies. Last year, Windsor Permian, a Texas oil and gas firm, paid over $16,000 an acre—well above market value—for a potential mining site near Red Wing, Minn. In west-central Wisconsin, farmers have been offered six-figure mineral rights fees, plus royalties of $1.50 to $3 per ton for their frac sand, said Gerald Duffy, a Twin Cities attorney who has represented landowners in the area.

Spending by sand millionaires—along with purchases of goods and services by mining companies, mining-related businesses and their workers—percolates through local economies, benefiting enterprises with little connection to mining.

That spending allows Park Service & Convenience in Maiden Rock to stay open year-round rather than closing during the winter, when tourist traffic slows to a trickle. And in New Auburn, the patronage of mine workers is crucial for the Sunshine Café, a downtown diner. Business was poor before the plants came, said owner Cindy Sarauer, who bought the cafe a year ago; now mine workers coming off the night shift help fill tables at breakfast. "People are working, so they have money to come out and eat," she said.

Local governments and taxpayers in rural areas also benefit from increased economic activity linked to mining. Chippewa Falls saw lodging tax receipts increase 23 percent between 2010 and 2011, in part because of overnight stays by mining company executives and their clients, according to city officials. And residents of the New Auburn area could see their school district mill rates drop by 40 percent or more over the next few years, as two new sand processing plants in the area start paying property taxes.

Lines in the sand

Economic gains from frac sand mining don't come without costs; mining activity can damage infrastructure and the natural environment, and compromise public health and safety. Many of these costs are borne by taxpayers, or by society at large in the form of extra personal expense or forgone benefits.

Truck hauling from sand mines exacts a heavy toll on rural roads and bridges, for instance. A recent Winona County study on the impact of sand mining on county roads found that daily truck traffic to and from two average-sized mines would wear out pavement at 10 times the rate of normal, mixed traffic.

As a rule, mining activity raises residential property values by increasing average household income; people can afford more expensive housing. But studies of gravel and coal mining in other parts of the country show that homes situated near a mine or major sand truck route lose value.

Although silica sand mining is not considered as environmentally harmful as metallic mining, it's an extractive industry that strips away vegetation and topsoil. Storm water runoff from mines can muddy wetlands and streams (as occurred in May, when sand-laden water from a frac sand mine near Grantsburg, Wis., leaked into the St. Croix River). However, in both Minnesota and Wisconsin, mining firms are required to reclaim land once mining stops, returning it to agricultural use or to its natural condition as woodland or prairie.

Mining activities throw up a lot of fine silica dust, which is not regulated as an air pollutant. Exposure to silica dust has been shown to cause a number of lung diseases, including silicosis and cancer, although there's no conclusive evidence linking these conditions to sand mining.

Some of this fallout from mining may affect other industries, such as agriculture, outdoor recreation and tourism. In Stockholm, Wis., a picturesque river community a few miles south of the Maiden Rock mine, Alan Nugent worries about the impact of increased sand truck traffic on his general store and art gallery, one of about 30 tourism-oriented businesses in the village.

Foot traffic and revenues haven't suffered so far, but Nugent fears that could change if

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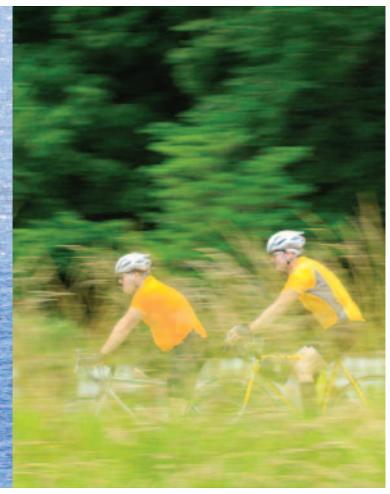
… and impacts alternate land uses and infrastructure.

Tourists come to sand country to shop …

… sail



… bike

… and enjoy the view.

In some areas, sand has supplanted corn and soybeans as a cash crop.

Truck traffic has increased on rural roads—and in small towns like Maiden Rock.

Photography by Bob Firth

The best frac sand consists of tiny, rounded grains of nearly pure quartz.

Many frac sand facilities are built adjacent to rail lines.

In Winona, Minn., a key transport hub, frac sand moves by truck …

by rail …

… and by river barge.

Photography by Bob Firth

Sand from page 13

sand mines are developed in the uplands behind Stockholm. "I'm more worried about the future than just what's happening now," he said. "There's talk of open pit mines and processing facilities going in behind the village, and that traffic would come right past our front door."

In many communities, sand mining has sparked protests from residents who have formed groups such as Maiden Rock Concerned Citizens and Save the Hills Alliance to monitor mining activity and challenge projects at normally uneventful township and village board meetings. "Those are laid-back, small groups where nothing controversial ever happened at their meetings, and now they're being confronted by these advocates opposed to mining," said Missling of Barron County economic development. "It's tough—you get neighbor pitted against neighbor."

Local governments across the region have responded to the controversy swirling around frac sand mining by imposing bans on new mining operations or expansions. Although federal and state governments have some oversight of nonmetallic mines, sand mining in Minnesota and Wisconsin is mostly regulated at the local level, through zoning codes and land use permits that require mining companies to fulfill certain conditions before starting operations.

Moratoriums on sand mining enacted by municipal, town and county boards over the past year are intended as a timeout in the sand rush—a chance for community leaders and planners to consider stricter regulations for sand mining."We needed to take the time to really make sure that we have adequately addressed health, safety and welfare impacts," said Jason Gilman, planning director for Winona County—one of five counties in southeastern Minnesota that have declared moratoriums on silica mining and processing.

Winona County's three-month moratorium expired in May, but bans in Goodhue, Wabasha, Fillmore and Houston counties are slated to remain in effect at least through the end of the year. In Wisconsin, moratoriums are in place in Buffalo, Dunn and Pepin counties (a six-month ban in Eau Claire County expired June 1) and in a number of townships in these and other west-central counties.

Blending into the landscape?

New sand mines are likely to appear on bluff tops and in valleys across the region as mining companies seek to satisfy high demand for frac sand in shale oilfields. There's no sign of a letup in shale oil drilling; in March, increased production in the Bakken oilfields made North Dakota the country's second-biggest oil producer, edging it ahead of Alaska. And rising energy prices in a rebounding global economy can only stimulate more drilling—and more digging in the nation's sandbox.

"As the price of oil goes up, you're going to see the need for things related to pulling oil out of the ground increase," said Dave Marcouiller, a resource economist at the University of Wisconsin-Madison.

However, within a few years, mining development may slow if frac sand production increases to the point where demand is satisfied and proppant prices fall. Or if transporting frac sand proves too cumbersome and expensive in some areas. Broberg and other industry sources believe that frac sand mining in southeastern Minnesota will remain small in scale until more rail and barge capacity is developed to ship sand to oil and gas fields.

And especially in Minnesota, uncertainty reigns about what will happen when moratoriums expire—a surge of development, renewed bans or something in between. "We really don't know what will happen; we know there's a lot of speculation," Gilman said. In Winona County, startup and regulatory costs may prompt some small, local mine developers to withdraw their proposals, he added.

But governments are seeking solutions to allow mining to expand while satisfying critics and protecting government assets and budgets. Winona County let mine development resume under revised regulations that include a road impact fee charged to new businesses that transport frac sand by truck. The impact fee—22 cents per mile for each ton of sand—will help fund ongoing repairs to county roads that suffer excessive wear and tear from sand hauling, Gilman said. New and expanded mining operations must also comply with county rules on dust monitoring, noise abatement, hours of operation and other matters.

Some Wisconsin townships have hammered out development agreements with mining companies intended to address the concerns of constituents and safeguard public resources. Last summer, the Town of Howard, where EOG Resources operates one of two Chippewa County mines, negotiated an agreement with the company that sets out rules of operation for the mine over the next 20 years. Among the requirements are a ban on mining operations from May 1 through Oct. 15 and a provision for offering fair market value to nearby residents who wish to sell their land. The pact has become a model for other Wisconsin townships seeking to forge their own agreements with mining firms.

Not that the dust has settled over frac sand mining in Wisconsin. In Maiden Rock, the Village Board and the Concerned Citizens group oppose Wisconsin Industrial Sand's plans to double the acreage of its mine. The citizens group has filed a lawsuit to stop the expansion.

Clearly, it will take awhile for frac sand mining to blend into the economic and political landscape—for communities in the region to figure out how to reap the economic rewards of mining while minimizing its societal costs. Broberg sees such an accommodation being reached, with sufficient planning by local governments, mining firms and other stakeholders in the industry.

"We're at a very infant stage with this," he said, "and there are going to be investments made to realize the economic benefit of sand mining—in all the areas that people have talked about, like logistics, and traffic, and health and safety. I think the appropriate balance can be found, and it will have to be worked out as this [industry] matures." f

More of the same: Moderate economic growth to continue

By ROB GRUNEWALD
Associate Economist

JOSEPH MAHON
Economic Analyst

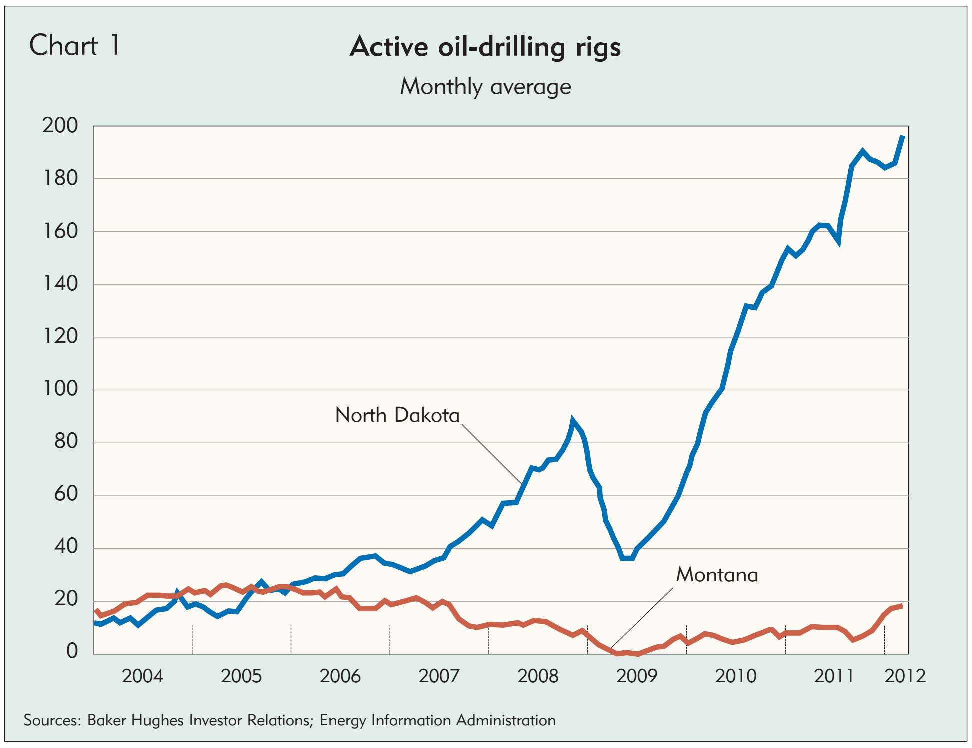
According to the Minneapolis Fed's forecasting model and results from recent surveys, the moderate economic recovery of the past few years will continue through 2013. The exception is North Dakota and areas servicing oil drilling, where strong economic growth is expected.

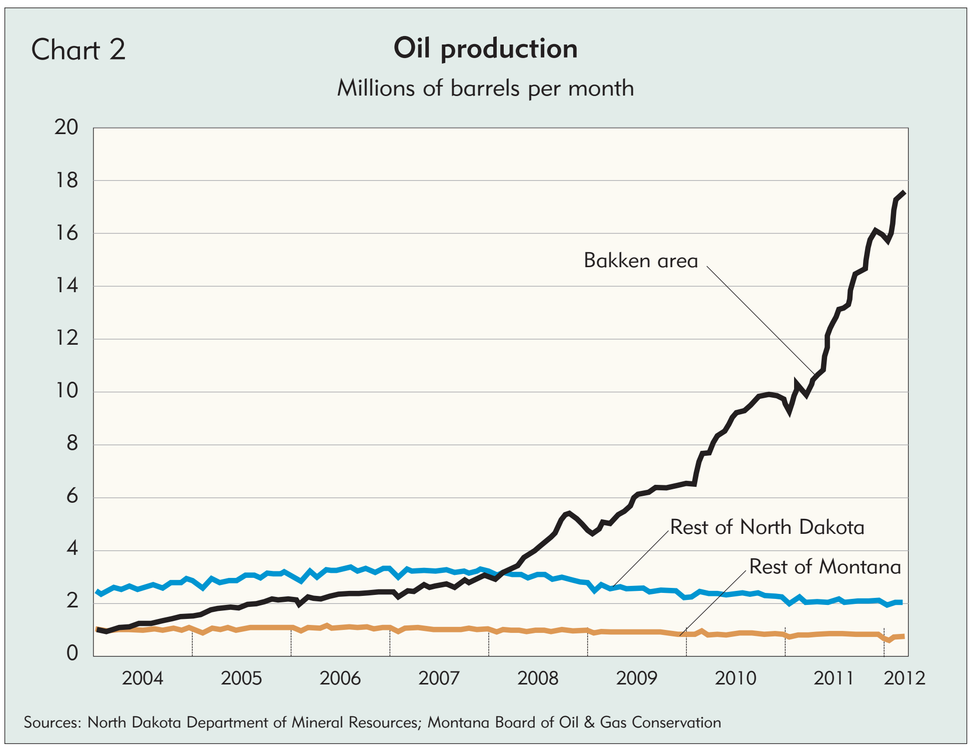
Employment levels will expand moderately, while unemployment rates will decrease somewhat, according to forecasting models. Some signs of improvement are noted in home building, while the services sector and tourism are expected to perform well. Meanwhile, a warm spring followed by plenty of rainfall has crops positioned for a strong harvest this fall.

North Dakota keeps booming

Oil-drilling operations in western North Dakota continue at a torrid pace (see Chart 1). In May, an average of 199 oil rigs were operating in North Dakota and 20 in Montana, almost all in the Bakken and related formations in western North Dakota and eastern Montana. In April, 17.5 million barrels of oil were produced in the Bakken area (see Chart 2). Last year in April, 9.8 million barrels were produced in this area. (See the Bakken page at minneapolisfed.org for more data.) North Dakota is now the second-largest oil-producing state in the country after Texas.

Combined with a strong agriculture sector and healthy economies in North Dakota's three largest cities (Bismarck, Grand Forks and Fargo), payroll employment in the state grew by over 5 percent last year. According to the Minneapolis Fed's forecasting models, employment growth will continue to expand in the state by over 5 percent in 2012 and 2013, while the unemployment rate will drop to 3 percent (see page 17). Strong economic activity is anticipated in this area for some time to come.





Employment grows moderately; home building shows improvement

Despite the outsized performance in North Dakota, nonfarm employment in May across the Ninth District was up just 0.5 percent compared with a year ago and considerably slower than the national growth rate of 1.4 percent (see Chart 3). Strong employment growth in North Dakota, and moderate growth elsewhere in the district, was overwhelmed by a decrease in employment in Wisconsin. The strongest gains were reported in natural resources and mining (20 percent, mostly due to the oil patch), professional and business services (2.8 percent), education and health services (2.2 percent) and manufacturing (1.7 percent). Meanwhile, employment levels decreased in government (-1 percent) and leisure and hospitality (-3.7 percent).

After posting decreases over the past few years, construction employment increased 0.7 percent in May, which is good news for a troubled sector affected by housing activity. From 2006 to 2010, district housing units authorized decreased well over 50 percent, and construction employment decreased 24 percent in district states over the same period. While residential construction generally accounts for only about 10 percent to 15 percent of construction employment, during the downturn almost 20 percent of construction jobs lost were in residential construction.

Through the first four months of 2012, however, there are signs of improvement (though still well below peak home-building levels in the middle of the last decade). Housing units authorized more than doubled in North Dakota and Montana compared with a year earlier. Solid gains were also observed in Minnesota and South Dakota (see Chart 4).

There were other signs of housing recovery as well. For example, the Minnesota Association of Realtors reported that May home sales were up 11 percent from a year earlier and that home prices increased 10 percent.

Employment gains in manufacturing continued in a sector that has provided strength to the district economy during the recovery, a good share of it attributable to export growth, which increased by 10 percent last year (see related story on page 18). According to a survey by Creighton University (Omaha, Neb.), manufacturing activity posted solid growth during April and May in Minnesota and the Dakotas.

Going forward, the Minneapolis Fed's forecasting models predict moderate gains in employment through 2013—with the exception of North Dakota, where employment will grow faster—and modest decreases in unemployment rates for district states.

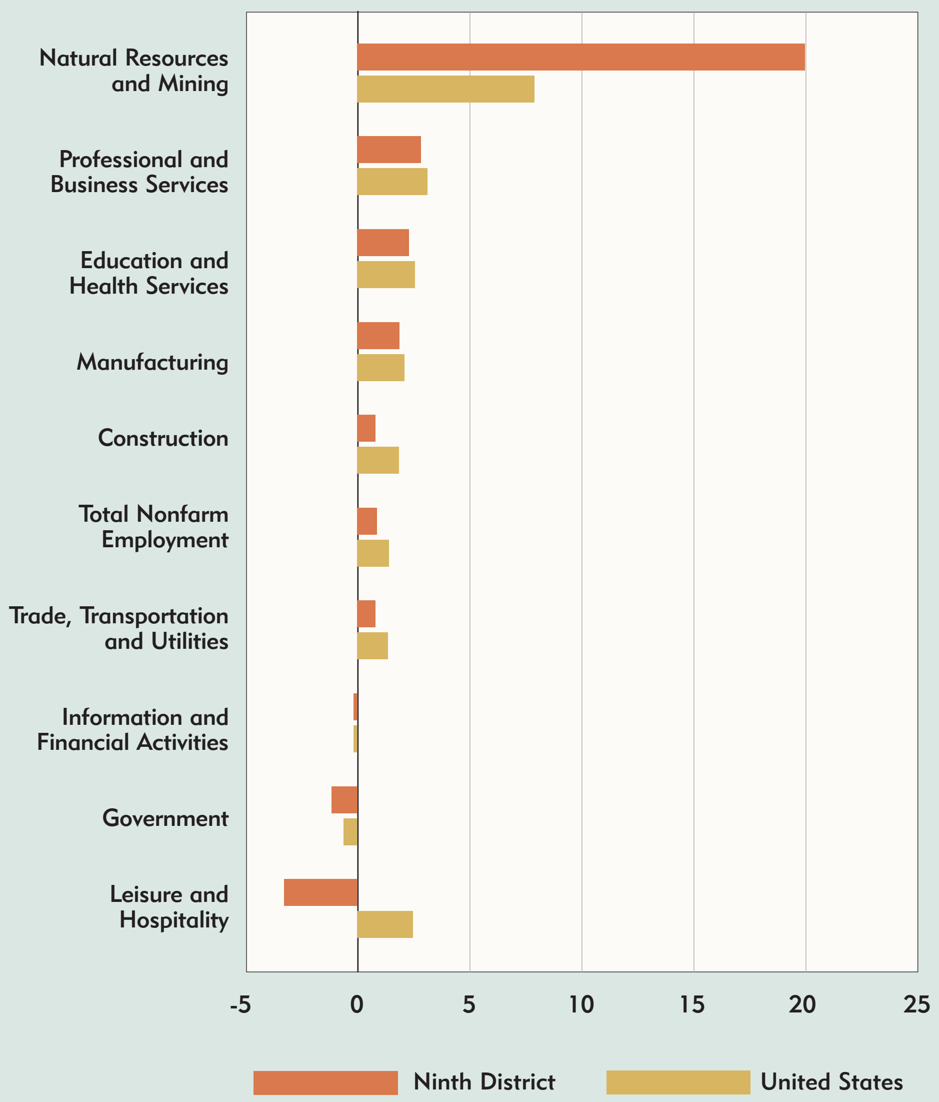
Services and tourism show positive signs

The outlook for professional services firms is positive, according to a May survey by the Federal Reserve Bank of Minneapolis and the Minnesota Department of Employment and Economic Development. Over the next four

Continued on page 16

Chart 3 **District employment growth slower than nation**

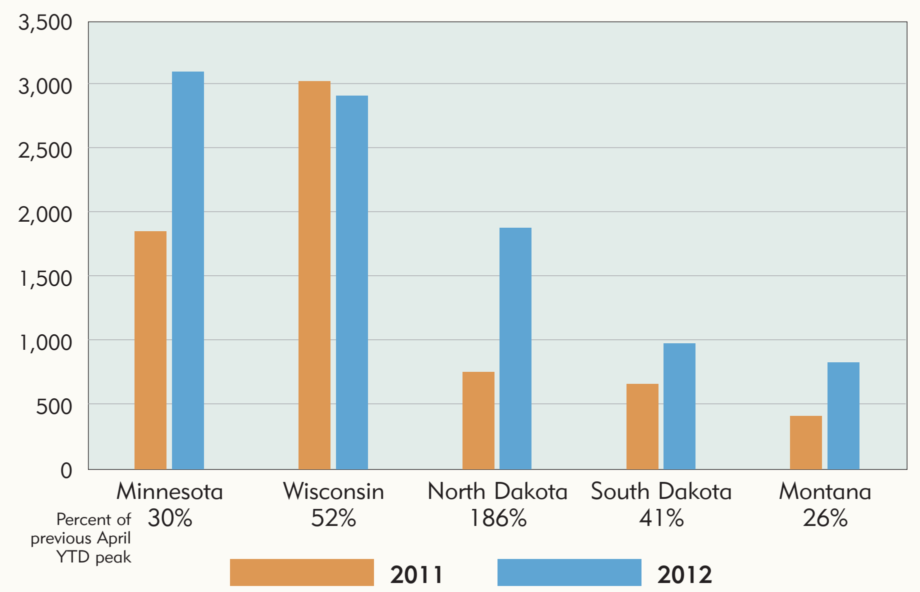
Nonfarm employment, percent change from a year earlier, May 2012



Source: Bureau of Labor Statistics

Chart 4 **Home building up, but well below peak in most states**

Housing units authorized, April year-to-date



Source: U.S. Census Bureau

Outlook from page 15

quarters, employment and profits will increase, and respondents expect growth to pick up in their state economies, according to the survey. (Details of the survey are in the enhanced *fedgazette* online at minneapolisfed.org.)

Overall, retail spending in the U.S. economy slowed somewhat during April and May. During May, vehicle sales levels decreased from earlier in the year, but were still ahead of a year ago. District retailers have recently noted more positive sales and traffic results relative to the rest of the country, particularly in the Dakotas.

District tourism officials are optimistic about the upcoming season. Gasoline prices have fallen from higher levels this spring, making it less expensive to travel. Mid-June gas prices in Minnesota were about the same as last year, which saw a solid summer tourism season.

According to a survey of Minnesota lodging and camping properties by the state tourism office, 39 percent of respondents expect summer occupancy to be up, while 15 percent expect decreases from a year ago. During May, officials in western South Dakota reported an increase in the number of tourism information requests, and officials in the Upper Peninsula of Michigan are predicting that summer activity will surpass last year's levels.

Meanwhile, overall price increases have been subdued. The consumer price index decreased 0.3 percent from April to May and was up only 1.7 percent from a year earlier due in large part to declining gas prices. However, with the relatively volatile food and energy sectors removed, the core rate of inflation in May was 2.3 percent higher than a year ago, the largest increase since 2008.

Farmers get an early start on 2012

Solid harvests and high prices for district agricultural commodities last year led to strong farm incomes. The first half of 2012 saw an early spring that allowed farmers to get a head start on planting, and timely rains alleviated drought conditions that had persisted in much of the district. Emergence rates for crops were well ahead of five-year averages as of early June, and the yield outlook is strong.

Not everything is positive in agriculture; an April freeze following the earlier warm-up may have done substantial damage to district fruit production. A severe drought spread throughout corn-producing areas of the Midwest, and while it has largely spared district states (with the exception of South Dakota), it has created an uncertain outlook for what had earlier looked to be a bountiful harvest. After decreasing throughout the first half of the year, crop prices have jumped back up in response to the drought threat (see table). Land prices also continue to increase, improving farm balance sheets.

The outlook for revenues is mixed; if the drought stays south, strong yields and higher prices could mean a windfall for district farmers. But profit margins may be squeezed due to higher input costs, including fuel and fertilizer. For animal producers, the outlook is stronger. Prices for cattle and hogs are at or near historic highs. Cattle prices are expected to climb a little higher over the next year, while hog prices should fall slightly. Reduced feed costs may aid profits. Dairy prices decreased from their high last year, but remain strong and are expected to increase slightly in the next year.

District farmers and ranchers are reporting a strong start to this year. According to the Minneapolis Fed's first-quarter (April 2012) agricultural credit conditions survey, 53 percent of respondents reported higher income and only 8 percent reported decreases. Agricultural lenders are mildly optimistic for farm profits in the second quarter of 2012, with 31 percent expecting increased income and 19 percent expecting decreased income. f

Crop and beef prices projected to increase

Average farm prices

	2009/2010	2010/2011	Estimated 2011/2012	Projected 2012/2013
(Current $ per bushel)				
Corn	3.55	5.18	6.10–6.30	5.40–6.40
Soybean	9.59	11.30	12.40	13.00–15.00
Wheat	4.87	5.70	7.24	6.20–7.40
	2010	**2011**	**Estimated 2012**	**Projected 2013**
(Current $ per cwt)				
All Milk	16.29	20.14	17.05–17.35	17.35–18.35
Choice Steers	95.38	114.73	123.00–126.00	124.00–135.00
Barrows & Gilts	55.06	66.11	60.00–62.00	58.00-62.00

Source: U.S. Department of Agriculture, estimates as of July 2012

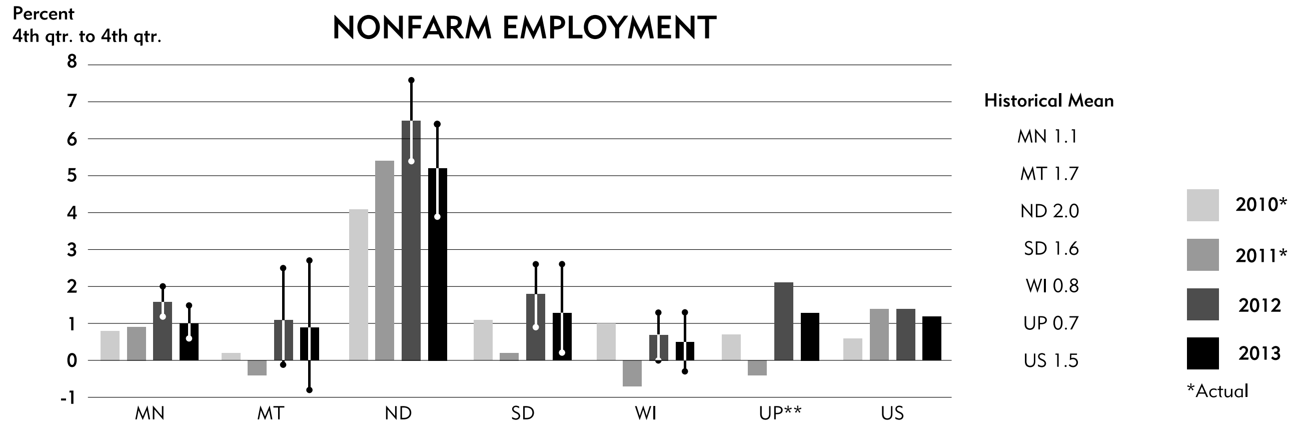
District Forecast

Employment will grow moderately. During 2011, nonfarm employment decreased in Montana, Wisconsin and the Upper Peninsula of Michigan and increased modestly in Minnesota and South Dakota. Meanwhile, employment posted strong gains in North Dakota. Following an overall lackluster year in 2011, employment growth is expected to pick up by the end of 2012 at rates at or above historical averages in all states, except in Montana and Wisconsin, where growth will remain below historical averages. In 2013, employment growth will moderate somewhat as growth rates slow slightly in all areas. As in 2011, employment growth in North Dakota is expected to exceed 5 percent annually through 2013.

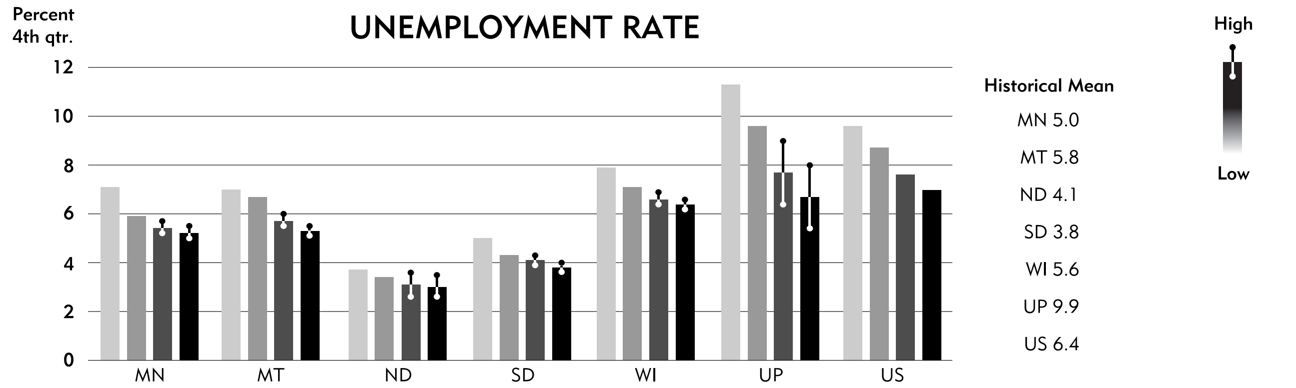
Unemployment rates will decrease. During 2011, unemployment rates decreased in all areas and are expected to continue to step down moderately during 2012. Unemployment rates in 2012 will drop below historical averages in Montana, North Dakota and the Upper Peninsula, but remain above historical averages in Minnesota, South Dakota and Wisconsin. In 2013, unemployment rates will continue to decline in all areas. Montana's rate will drop below its historical average, but rates in Minnesota and Wisconsin will remain above historical averages. The unemployment rate in North Dakota is expected to drop to 3 percent by the end of 2013.

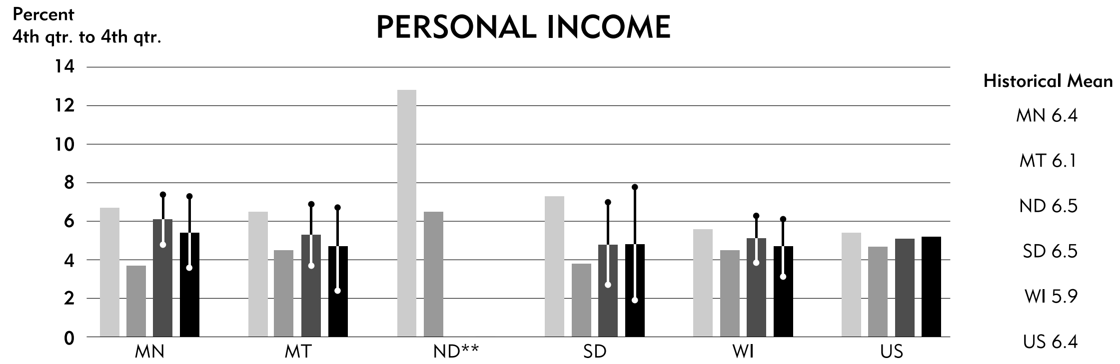
Personal income will grow. In 2011, the pace of personal income growth slowed relative to growth in 2010 in all district states. During 2012, income growth rates are expected to pick up in all areas except North Dakota, where the forecasting model predicts a decrease. In 2013, personal income growth rates will slow in all areas—more in some than others, except in South Dakota, where the growth rate will remain the same. The decrease predicted for North Dakota for 2012 and 2013 is likely attributed to the volatile nature of farm income; the confidence interval surrounding this figure is wide, indicating a relatively high degree of uncertainty. Despite the model's North Dakota income forecast, personal income will likely increase in North Dakota, based on the employment prediction and strong oil production activity in the state.

Housing units authorized has likely reached bottom and will see some growth over the next 18 months. In 2011, housing units authorized decreased in Minnesota and Wisconsin, posted some gains in Montana and South Dakota, and showed strong gains in North Dakota. During 2012, authorizations are expected to increase in all areas, with the strongest growth in Minnesota and North Dakota. In 2013, growth rates are expected to slow and authorizations will even decrease slightly in North Dakota and Wisconsin. Despite gains over the next 18 months, authorization levels will generally remain low historically, particularly in Minnesota and Wisconsin. The exception is North Dakota, where housing units authorized are expected to reach relatively high historical levels. Note that the confidence intervals for home building predictions span a relatively wide range, indicating a much higher degree of uncertainty compared with forecasts for employment, unemployment rate and personal income.

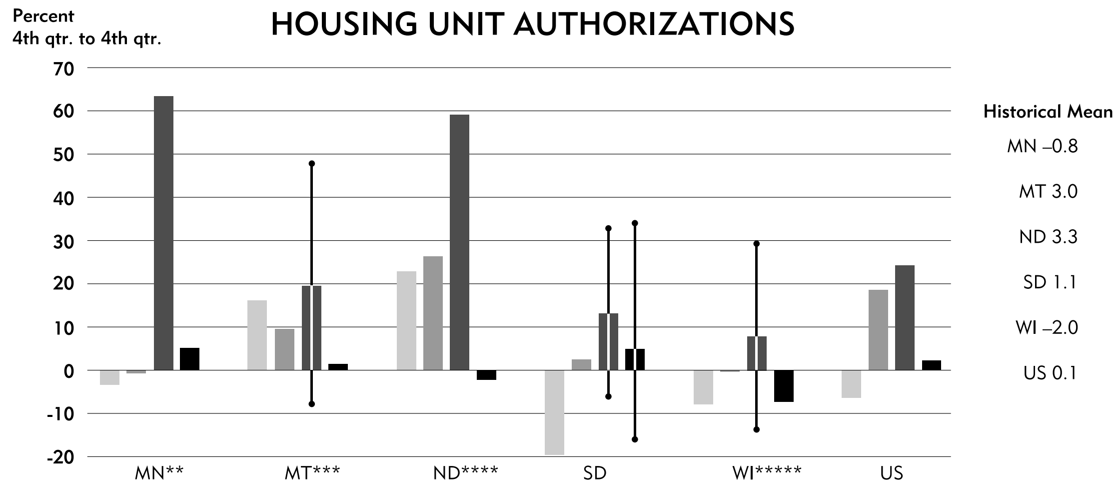


**Confidence interval for 2012 is –2.6 to 6.4 and for 2013 is –4.3 to 8.0.





**Value for 2012 is –6.2 and for 2013 is –5.4. Confidence interval for 2012 is –27.9 to 22.1 and for 2013 is –34.2 to 37.1.



**Confidence interval for 2012 is 30.8 to 96.7 and for 2013 is –18.2 to 35.7.
***Confidence interval for 2013 is –25.4 to 38.6.
****Confidence interval for 2012 is –0.3 to 117.3 and for 2013 is –43.1 to 61.9.
*****Confidence interval for 2013 is –31.3 to 22.5.

Minnesota

Five largest manufactured export destinations

	Total Exports 2011 (millions of dollars)	Annual Percent Change 2010-2011
Canada	5,001.0	8.2
Europe	4,107.0	-0.2
Asian NIEs*	2,044.9	6.1
China	1,738.2	20.3
Southeast Asia	1,475.3	3.0
Total Manufactured Exports	18,373.4	7.1

Five largest manufactured export industries

	Total Exports 2011 (millions of dollars)	Annual Percent Change 2010-2011
Computer and Electronic Products	3,868.6	-3.4
Machinery, Except Electrical	3,438.7	14.4
Transportation Equipment	2,226.5	6.3
Food and Kindred Products	1,572.9	18.2
Misc. Manufactured Commodities	1,535.5	-8.2
Total Manufactured Exports	18,373.4	7.1

Montana

Five largest manufactured export destinations

	Total Exports 2011 (millions of dollars)	Annual Percent Change 2010-2011
Canada	500.4	18.1
Europe	186.8	14.5
Asian NIEs*	185.7	-14.8
China	110.7	16.5
Japan	62.0	-43.5
Total Manufactured Exports	1,162.9	4.2

Five largest manufactured export industries

	Total Exports 2011 (millions of dollars)	Annual Percent Change 2010-2011
Chemicals	349.6	-5.3
Machinery, Except Electrical	205.0	-7.1
Petroleum and Coal Products	160.2	194.5
Transportation Equipment	149.5	8.4
Primary Metal Manufacturing	64.2	-48.2
Total Manufactured Exports	1,162.9	4.2

North Dakota

Five largest manufactured export destinations

	Total Exports 2011 (millions of dollars)	Annual Percent Change 2010-2011
Canada	1,228.9	10.8
Europe	284.2	52.8
South America	95.6	38.4
Mexico	95.3	-9.5
Pacific Islands	85.5	17.2
Total Manufactured Exports	2,022.7	19.3

*Asian NIEs (newly industrialized economies) include Hong Kong, Singapore, South Korea and Taiwan.

Manufactured exports continued to expand in 2011

By ROB GRUNEWALD
Economist

AARON RICHINS
Research Assistant

The economy of 2011 will go down as somewhat lackluster, but don't blame manufacturing exports from district states, which increased more than 10 percent last year, reaching a record $43.7 billion. That's lower than the 17 percent bump in 2010, but the second-best performance since the recession. Manufactured exports increased in all states, with the strongest growth in North Dakota and South Dakota; each increased about 19 percent in 2011.

The global economy continued to expand during 2011, which supported demand for district products. The strongest growth was reported in China, India and other developing nations. Developed countries contributed less to overall global output, as Japan's economy was weakened by the tsunami and Europe struggled with government debt levels.

Overall, the value of the U.S. dollar relative to foreign currencies remained relatively stable. According to a weighted average of a broad array of foreign currencies, the U.S. dollar increased slightly in value, which generally made U.S. exports abroad a bit more expensive.

However, there was diversity among particular currencies. The U.S. dollar increased in value modestly relative to the euro and Canadian dollar, but more than 10 percent relative to the Mexican peso (see Chart 1). This likely contributed to the relatively soft gain in district manufactured exports to Mexico.

Meanwhile, the U.S. dollar decreased in value relative to the Japanese yen and Chinese yuan. Despite the fall in value of the U.S. dollar, district manufactured exports to Japan dropped 1.3 percent in 2011, as the country struggled with the impact of the tsunami. The district's largest manufactured export industry to Japan, computer and electronic products, decreased by 9 percent, but gains were recorded in machinery and food and kindred products.

Since China allowed the value of the yuan to fluctuate relative to the dollar in July 2005, the U.S. dollar has decreased in value by 24 percent relative to the yuan. U.S. and district manufactured exports to China made strong gains during this time, but are still dwarfed by the value of imports from China, as evidenced by the large U.S.-China trade deficit. Nevertheless, the value of imports relative to exports decreased nationally to a ratio of 4-to-1 in 2011 from 6-to-1 in 2005.

Most of the district's larger export industries posted gains in 2011. Machinery, the district's largest export industry, increased 21 percent, while food and kindred products, the third-largest export industry, increased 14 percent. Meanwhile, computer and electronic products and transportation equipment posted small decreases. Exports of petroleum and coal products posted strong gains in Montana and North Dakota, but still represent a relatively small share of total district manufactured exports.

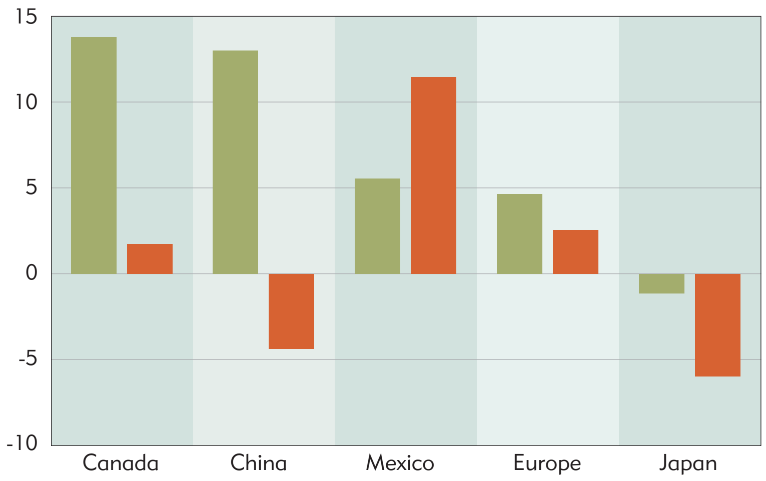
Exports support manufacturing employment

As district manufactured exports expanded in 2011, manufacturing employment grew at the fastest rate since the mid 1990s (see Chart 2). The gain follows a steep decline during the recession, when manufacturing employment dropped almost 11 percent in 2009. Strength in exports has helped boost the manufacturing sector, as manufactured exports represent a sizable share of manufacturing GDP in district states, from 28 percent in South Dakota to 54 percent in North Dakota. However, previous periods of strong growth in manufactured exports were not associated with strong gains in employment. For example, manufactured exports posted double-digit annual gains from 2004 to 2007, yet manufacturing employment increased only slightly.

U.S. manufacturing employment peaked in 1979 and is now only about 60 percent of that level. Since the late 1970s, large manufacturing operations that tended to rely on unskilled labor have often closed and moved overseas to China and other nations where unskilled labor is less expensive (see the September 2011 issue of *The Region*). Today's manufacturing sector has fewer large operations and tends to rely on more skilled and productive labor. As evidence, wages in the U.S. manufactur-

Chart 1 **Exchange rates varied in 2011**

Percent change from 2010 to 2011



Sources: WISERTrade International Trade Database, Holyoke Community College; Board of Governors of the Federal Reserve System

ing sector increased almost 20 percent from 1997 to 2010, adjusted for inflation, while wages across all sectors increased only 16 percent.

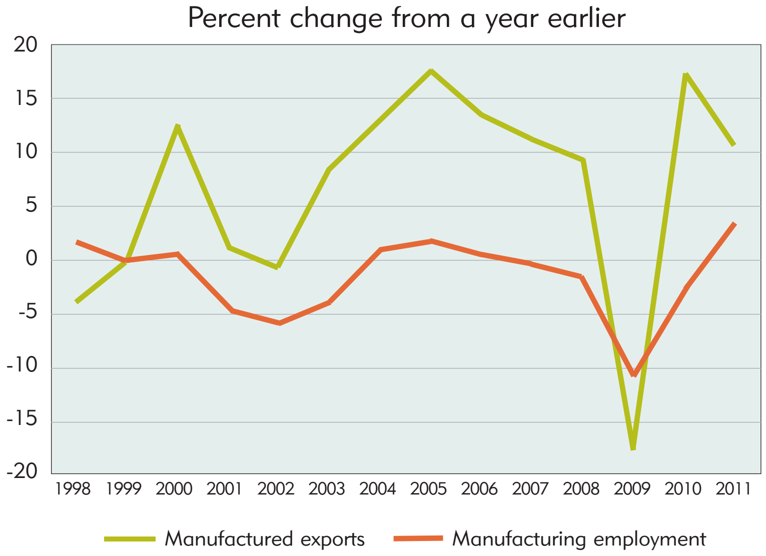
The recent jump in manufacturing employment is likely an adjustment to the large drop in employment during the recession, but also may provide a signal that the sector is no longer losing jobs overseas at the pace it has in the past.

District ranks relatively low in exports per capita

Even though Minnesota, North Dakota and Montana border Canada, these states have relatively modest state rankings in manufactured exports per capita. However, these district states don't represent the strongest trade flows to Canada. Washington and Vermont, which also border Canada, rank third and fourth, respectively, among all states in manufactured exports per capita. Texas, which borders Mexico, and Louisiana, which has a large port, rank first and second in the country. Among district states, Wisconsin has the highest state ranking at 20th, while Montana has the lowest at 48th. f

Chart 2 **Manufacturing employment posts strong gain in 2011**

Percent change from a year earlier



Sources: WISERTrade International Trade Database, Holyoke Community College; U.S. Bureau of Labor Statistics

North Dakota (continued)

Five largest manufactured export industries

	Total Exports 2011 (millions of dollars)	Annual Percent Change 2010-2011
Machinery, Except Electrical	1,030.2	24.5
Food and Kindred Products	236.6	-33.9
Transportation Equipment	201.9	26.2
Chemicals	189.1	83.9
Beverages and Tobacco Products	70.9	40.4
Total Manufactured Exports	2,022.7	19.3

South Dakota

Five largest manufactured export destinations

	Total Exports 2011 (millions of dollars)	Annual Percent Change 2010-2011
Canada	483.9	28.2
Mexico	389.1	16.9
Europe	158.2	2.5
China	61.7	75.5
Asian NIEs*	50.6	26.2
Total Manufactured Exports	1,372.2	18.5

Five largest manufactured export industries

	Total Exports 2011 (millions of dollars)	Annual Percent Change 2010-2011
Food and Kindred Products	504.8	18.8
Machinery, Except Electrical	264.1	30.3
Beverages and Tobacco Products	172.3	67.5
Transportation Equipment	116.3	-2.9
Computer and Electronic Products	111.9	26.5
Total Manufactured Exports	1,372.2	18.5

Wisconsin

Five largest manufactured export destinations

	Total Exports 2011 (millions of dollars)	Annual Percent Change 2010-2011
Canada	6,742.1	17.7
Europe	3,895.1	7.2
Mexico	1,820.6	-2.7
South America	1,730.1	19.6
China	1,213.4	1.7
Total Manufactured Exports	20,728.3	12.5

Five largest manufactured export industries

	Total Exports 2011 (millions of dollars)	Annual Percent Change 2010-2011
Machinery, Except Electrical	6,698.6	24.9
Computer and Electronic Products	3,173.1	-6.4
Food and Kindred Products	1,573.7	21.0
Transportation Equipment	1,543.0	-13.5
Chemicals	1,531.3	30.6
Total Manufactured Exports	20,728.3	12.5

*Asian NIEs (newly industrialized economies) include Hong Kong, Singapore, South Korea and Taiwan.

Source: WISERTrade: International Trade Database, Holyoke Community College

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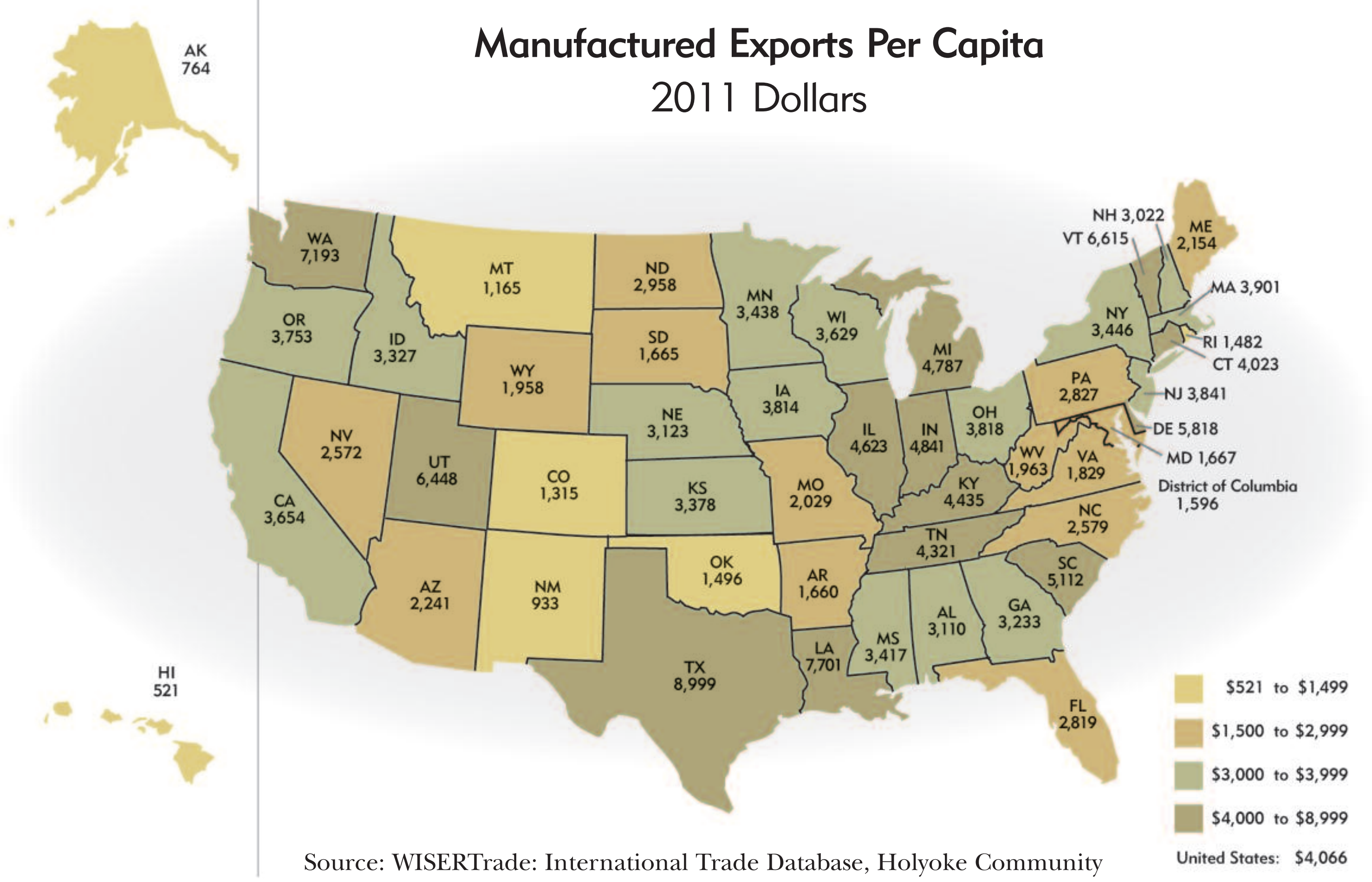

Source: WISERTrade: International Trade Database, Holyoke Community College and U.S. Census Bureau